Center for Hormonforstyrrende Stoffer

Litteraturgennemgang for perioden 15. maj 2014 – 1. september 2014

Indhold

Humane studier ved Afd. for Vækst og Reproduktion, Rigshospitalet 2

Udvalgte publikationer 3

Bruttoliste 7

In vitro studier ved DTU Fødevareinstituttet 33

Udvalgte publikationer 34

Bruttolisten 35

In Vivo studier ved DTU - FOOD 43

Udvalgte publikationer 44

Bruttolisten in vivo 45

Wildlife studier ved Biologisk Institut, Syddansk Universitet (SDU) 55

Udvalgte artikler 56

Bruttoliste 59

Humane studier ved Afd. for Vækst og Reproduktion, Rigshospitalet

Søgning er udført på PubMed og dækker perioden 15. maj 2014 – 1. september 2014

Følgende søgeprofil er benyttet:

Bisphenol A
Phthalat*
Paraben*
(perfluor* OR polyfluor*)
Triclocarban
Triclosan
(Flame retardant)
tributyltin
endocrine disrupters

kombineret med nedenstående tekst:

AND expos* AND (human OR men OR women OR child* OR adult* OR adolescen* OR infan*)

Limits: title/abstract, English language
For søgetermen "endocrine disrupters" har vi fjernet alle de hits, der også fremkomved de øvrige søgninger.

De udvalgte artikler spreder sig over kemikaliegrupperne phenoler, phthalater, bromerede flammehæmmere og PFASer. En enkelt artikel, der ikke undersøger hormonforstyrrende stoffer, men udelukkende ser på sammenhæng mellem anogenital distance og henholdsvis kryptorkisme og hypospadi er også medtaget, grundet dens relevans for begrebet testikulært dysgenese syndrom.

God læselyst!

Udvalgte publikationer

Braun JM, Lanphear BP, Calafat AM, Deria S, Khoury J, Howe CJ, Venners SA.
Early-Life Bisphenol A Exposure and Child Body Mass Index: A Prospective Cohort Study.
Environ Health Perspect. 2014 Jul 29. [Epub ahead of print]

BACKGROUND: Early life bisphenol A (BPA) exposure may increase childhood obesity risk, but few prospective epidemiological studies have investigated this relationship. OBJECTIVE: To determine if early life BPA exposure was associated with increased body mass index (BMI) at 2-5 years of age in 297 mother-child pairs from Cincinnati, OH (HOME Study). METHODS: Urinary BPA concentrations were measured in samples collected from pregnant women during the 2nd and 3rd trimesters and their children at 1 and 2 years of age. BMI z-scores were calculated from weight/height measures conducted annually from 2-5 years of age. We used linear mixed models to estimate BMI differences or trajectories with increasing creatinine-normalized BPA concentrations. RESULTS: After confounder adjustment, each 10-fold increase in prenatal (β = -0.1, 95% confidence limit [CL]: -0.5, 0.3) or early childhood (β = -0.2, CL: -0.6, 0.1) BPA concentrations was associated with a modest and non-significant reduction in child BMI. These inverse associations were suggestively stronger in girls compared to boys (prenatal effect measure modification [EMM] p-value = 0.30, early childhood EMM p-value = 0.05), but sex-specific associations were imprecise. Children in the highest early childhood BPA tercile had lower BMI at 2 years (difference = -0.3; CL: -0.6, 0) and larger increases in their BMI slope from 2-5 years (BMI increase per year = 0.12; CL: 0.07, 0.18) than children in the lowest tercile (BMI increase per year = 0.07; CL: 0.01, 0.13). All associations were attenuated without creatinine-normalization. CONCLUSIONS: Prenatal and early childhood BPA exposures were not associated with increased BMI at 2-5 years, but higher early childhood BPA exposures were associated with accelerated growth during this period.

Philippat C, Botton J, Calafat AM, Ye X, Charles MA, Slama R; EDEN Study Group
Prenatal exposure to phenols and growth in boys
Epidemiology. 2014 Sep;25(5):625-35. doi: 10.1097/EDE.0000000000000132

BACKGROUND: Phenols interact with nuclear receptors implicated in growth and adipogenesis regulation. Only a few studies have explored their effects on growth in humans. OBJECTIVES: We studied the associations of maternal exposure to phenols during pregnancy with prenatal and postnatal growth of male newborns. METHODS: Within a cohort of women recruited during pregnancy, we selected 520 mother-son pairs and quantified 9 phenols in spot urine samples collected during pregnancy. We used ultrasonography during pregnancy, together with birth measurements, to assess fetal growth. We modeled individual postnatal growth trajectories from repeated measures of weight and height in the first 3 years of life. RESULTS: Triclosan concentration was negatively associated with growth parameters measured at the third ultrasound examination but not earlier in pregnancy. At birth, this phenol tended to be negatively associated with head circumference (-1.2 mm for an interquartile range [IQR] increase in ln-transformed triclosan concentration [95% confidence interval = -2.6 to 0.3]) but not with weight or height. Parabens were positively associated with weight at birth. This positive association remained for 3 years for methylparaben (β = 193 g [-4 to 389]) for an IQR increase in ln-transformed concentrations. CONCLUSION: We relied on only 1 spot urine sample to assess exposure; because of the high variability in phenol urinary concentrations reported during pregnancy, using only 1 sample may result in exposure misclassification, in particular for bisphenol A. Our study suggested associations between prenatal exposure to parabens and triclosan and prenatal or early postnatal growth.

Ferguson KK, Peterson KE, Lee JM, Mercado-García A, Blank-Goldenberg C, Téllez-Rojo MM, Meeker JD.
Prenatal and peripubertal phthalates and bisphenol A in relation to sex hormones and puberty in boys.
Reprod Toxicol. 2014 Aug;47:70-6. doi: 10.1016/j.reprotox.2014.06.002. Epub 2014 Jun 16.

Phthalates and BPA are known endocrine disruptors and exposure in pregnant mothers and children is ubiquitous. We explored the relationship of prenatal and childhood exposures with pubertal onset and sex hormones in boys (ages 8-14). Phthalate metabolites and BPA were measured in maternal 3rd trimester or childhood urine. Sex hormones DHEAS, estradiol, inhibin B, SHBG, and total testosterone were measured in serum. Adrenarche and puberty were assessed by pediatrician. Prenatal exposure to some phthalates was associated with decreased DHEAS and inhibin B levels, and with increased SHBG. Prenatal exposure to most phthalates and BPA was associated with greatly reduced odds of adrenarche (odds ratios [OR]=0.12-0.65) and slightly reduced odds of puberty (OR=0.50-0.98). Childhood exposure was not associated with adrenarche or puberty, but some phthalates and BPA were associated with increased SHBG levels and decreased total and free testosterone levels.

Meeker JD, Ferguson KK
Urinary Phthalate Metabolites Are Associated With Decreased Serum Testosterone in Men, Women, and Children From NHANES 2011-2012
J Clin Endocrinol Metab. 2014 Aug 14:jc20142555. [Epub ahead of print]

Context: There is evidence of declining trends in T levels among men in recent decades, as well as trends in related conditions at multiple life stages and in both sexes. There is also animal and limited human evidence that exposure to phthalates, chemicals found in plastics and personal care products, is associated with reduced androgen levels and associated disorders. Objective: To explore relationships between urinary concentrations of 13 phthalate metabolites and serum total T levels among men, women, and children when adjusting for important confounders and stratifying by sex and age (6-12, 12-20, 20-40, 40-60, and 60-80 y). Design: A cross-sectional study. Setting: US National Health and Nutrition Examination Survey, 2011-2012. Patients or Other Participants: US general population. Interventions: None Main Outcome Measures: Serum total T measured by isotope dilution-liquid chromatography-tandem mass spectrometry. Results: Multiple phthalates were associated with significantly reduced T in both sexes and in differing age groups. In females, the strongest and most consistent inverse relationships were found among women ages 40-60 years. In boys 6-12 years old, an interquartile range increase in metabolites of di-2-ethylhexyl phthalate was associated with a 29% (95% confidence interval, 6, 47) reduction in T. In adult men, the only significant or suggestive inverse associations between phthalates (metabolites of di-2-ethylhexyl phthalate and dibutyl phthalate) and T were observed among men ages 40-60 years. Conclusions: Because T plays an important role in all life stages for both sexes, future efforts should focus on better defining these relationships and their broader impacts.

Frederiksen H, Kuiri-Hänninen T, Main KM, Dunkel L, Sankilampi U.
A Longitudinal Study of Urinary Phthalate Excretion in 58 Full-Term and 67 Preterm Infants from Birth through 14 Months.
Environ Health Perspect. 2014 Sep;122(9):998-1005. doi: 10.1289/ehp.1307569. Epub 2014 May 29.

BACKGROUND: Some phthalates have shown antiandrogenic effects in rat offspring. Premature infants may be exposed to high amounts of specific phthalates during hospitalization, and thus are potentially at risk. OBJECTIVE: We evaluated longitudinal phthalate exposure and metabolism in full-term (FT) and preterm (PT) infants. METHODS: Fifty-eight FT and 67 PT (gestational age, 24.7-36.6 weeks) infants were recruited at

birth and followed until 14 months (nine times). Urinary concentrations of metabolites of diethyl phthalate (DEP), dibutyl phthalate isomers (DiBP and DnBP), butylbenzyl phthalate (BBzP), di(2-ethylhexyl) phthalate (DEHP), and diisononyl phthalate (DiNP) were measured in 894 samples. Daily intake and a hazard index for antiandrogenic effects were estimated, and excretion patterns of DEHP and DiNP metabolites were analyzed. RESULTS: Metabolites of BBzP, DiNP, and DEHP were 5-50 times higher at day 7 (D7) and month 1 (M1) in PT than in FT infants. Thereafter, metabolite concentrations were similar between the two groups. The estimated hazard index for combined DiBP, DnBP, BBzP, and DEHP exposures 7 days after birth exceeded the antiandrogenic threshold in > 80% of PT and > 30% of FT infants, and after M2, in 30% of all infants. The excretion pattern of DEHP and DiNP metabolites changed with age. CONCLUSION: Most PT infants and approximately one-third of healthy FT newborns were exposed to phthalates during early life at a potentially harmful level according to the European Food Safety Authority's recommended limits of daily exposure. Changes in the relative proportions of secondary phthalate metabolites over time were consistent with maturation of infant metabolic pathways during the first year of life. Further research is needed on the health effects of phthalate exposures and the influence of changes in metabolic capacity in neonates and infants.

Chen A, Yolton K, Rauch SA, Webster GM, Hornung R, Sjödin A, Dietrich KN, Lanphear BP.
Prenatal Polybrominated Diphenyl Ether Exposures and Neurodevelopment in U.S. Children through 5 Years of Age: The HOME Study.
Environ Health Perspect. 2014 Aug;122(8):856-62. doi: 10.1289/ehp.1307562. Epub 2014 May 21.

BACKGROUND: Polybrominated diphenyl ethers (PBDEs) are persistent chemicals that have been widely used as flame retardants in furniture, carpet padding, car seats, and other consumer products during the past three decades. OBJECTIVE: We examined whether in utero exposure to PBDEs is associated with child cognitive function and behavior in a U.S. study sample. METHODS: In a prospective birth cohort, we measured maternal serum concentrations of BDE-47 and other PBDE congeners in 309 women at 16 weeks of gestation during 2003-2006 and followed their children in Cincinnati, Ohio. We measured cognitive and motor abilities using the Bayley Scales of Infant Development-II at ages 1, 2, and 3 years; intelligence using the Wechsler Preschool and Primary Scale of Intelligence-III at age 5 years; and children's behaviors using the Behavioral Assessment System for Children-2 annually at ages 2-5 years. We used linear mixed models or generalized estimating equations with adjustment for potential confounders to estimate associations between these outcomes and log10-transformed PBDE concentrations. RESULTS: The geometric mean of BDE-47 in maternal serum (20.1 ng/g lipid) was comparable with U.S. adult national reference values. Prenatal BDE-47 was not significantly associated with Bayley Mental or Psychomotor Development Indices at 1-3 years, but a 10-fold increase in prenatal BDE-47 was associated with a 4.5-point decrease (95% CI: -8.8, -0.1) in Full-Scale IQ and a 3.3-point increase (95% CI: 0.3, 6.3) in the hyperactivity score at age 5 years. CONCLUSIONS: Prenatal exposure to PBDEs was associated with lower IQ and higher hyperactivity scores in children.

Scheringer M, Trier X, Cousins IT, de Voogt P, Fletcher T, Wang Z, Webster TF
Helsingør Statement on poly- and perfluorinated alkyl substances (PFASs)
Chemosphere. 2014 Nov;114:337-9. doi: 10.1016/j.chemosphere.2014.05.044. Epub 2014 Jun 14.

In this discussion paper, the transition from long-chain poly- and perfluorinated alkyl substances (PFASs) to fluorinated alternatives is addressed. Long-chain PFASs include perfluoroalkyl carboxylic acids (PFCAs) with 7 or more perfluorinated carbons, perfluoroalkyl sulfonic acids (PFSAs) with 6 or more perfluorinated carbons, and their precursors. Because long-chain PFASs have been found to be persistent, bioaccumulative and toxic, they are being replaced by a wide range of fluorinated alternatives. We summarize key concerns

about the potential impacts of fluorinated alternatives on human health and the environment in order to provide concise information for different stakeholders and the public. These concerns include, amongst others, the likelihood of fluorinated alternatives or their transformation products becoming ubiquitously present in the global environment; the need for more information on uses, properties and effects of fluorinated alternatives; the formation of persistent terminal transformation products including PFCAs and PFSAs; increasing environmental and human exposure and potential of adverse effects as a consequence of the high ultimate persistence and increasing usage of fluorinated alternatives; the high societal costs that would be caused if the uses, environmental fate, and adverse effects of fluorinated alternatives had to be investigated by publicly funded research; and the lack of consideration of non-persistent alternatives to long-chain PFASs.

Thankamony A, Lek N, Carroll D, Williams M, Dunger DB, Acerini CL, Ong KK, Hughes IA

Anogenital distance and penile length in infants with hypospadias or cryptorchidism: comparison with normative data

Environ Health Perspect. 2014 Feb;122(2):207-11. doi: 10.1289/ehp.1307178

BACKGROUND: Anogenital distance (AGD) in animals is a sensitive biomarker of fetal endocrine disruption and the associated testicular dysgenesis syndrome (TDS). However, AGD in human infants with cryptorchidism and hypospadias, which are potential manifestations of TDS during childhood, is not clearly described. OBJECTIVE: Our aim was to compare AGD in boys with cryptorchidism or hypospadias against normative data. METHODS: Boys with isolated cryptorchidism (n = 71, age 13.4 ± 5.8 months) or hypospadias (n = 81, age 11.4 ± 6.2 months) were recruited from a tertiary center for measurement of AGD and penile length; they were compared with 487 healthy full-term boys from a birth cohort by deriving age-specific standard deviation scores (SDS). RESULTS: Boys with cryptorchidism were older ($p = 0.048$) compared with boys with hypospadias. Boys with hypospadias had shorter mean AGD and penile length SDS than healthy boys (both $p < 0.0001$). Mean AGD and penile length SDS values in boys with cryptorchidism were longer than mean values in boys with hypospadias (both $p < 0.01$) and shorter than mean values in healthy boys (both $p < 0.0001$). Mean penile length SDS decreased as the severity of hypospadias increased ($p_{trend} = 0.078$). CONCLUSIONS: In the study population, AGD and penile length were reduced in boys with hypospadias or cryptorchidism relative to normative data derived from a longitudinal birth cohort. The findings support the use of AGD as a quantitative biomarker to examine the prenatal effects of exposure to endocrine disruptors on the development of the male reproductive tract.

Bruttoliste

Bisphenol A

1: Liu Y, Mei C, Liu H, Wang H, Zeng G, Lin J, Xu M. Modulation of Cytokine Expression in Human Macrophages by Endocrine-disrupting Chemical Bisphenol-A. Biochem Biophys Res Commun. 2014 Aug 13. pii: S0006-291X(14)01446-6. doi: 10.1016/j.bbrc.2014.08.031. [Epub ahead of print] PubMed PMID: 25128825.

2: Vela-Soria F, Ballesteros O, Zafra-Gómez A, Ballesteros L, Navalón A. A multiclass method for the analysis of endocrine disrupting chemicals in human urine samples. Sample treatment by dispersive liquid-liquid microextraction. Talanta. 2014 Nov 1;129C:209-218. doi: 10.1016/j.talanta.2014.05.016. Epub 2014 May 29. PubMed PMID: 25127586.

3: Geens T, Bruckers L, Covaci A, Schoeters G, Fierens T, Sioen I, Vanermen G, Baeyens W, Morrens B, Loots I, Nelen V, de Bellevaux BN, Larebeke NV, Hond ED. Determinants of bisphenol A and phthalate metabolites in urine of Flemish adolescents. Environ Res. 2014 Aug 12;134C:110-117. doi: 10.1016/j.envres.2014.07.020. [Epub ahead of print] PubMed PMID: 25127521.

4: Liu Y, Yuan C, Chen S, Zheng Y, Zhang Y, Gao J, Wang Z. Global and cyp19a1a gene specific DNA methylation in gonads of adult rare minnow Gobiocypris rarus under bisphenol A exposure. Aquat Toxicol. 2014 Aug 2;156C:10-16. doi: 10.1016/j.aquatox.2014.07.017. [Epub ahead of print] PubMed PMID: 25125231.

5: Wei J, Sun X, Chen Y, Li Y, Song L, Zhou Z, Xu B, Lin Y, Xu S. Perinatal exposure to bisphenol A exacerbates nonalcoholic steatohepatitis-like phenotype in male rat offspring fed on a high-fat diet. J Endocrinol. 2014 Sep;222(3):313-25. doi: 10.1530/JOE-14-0356. PubMed PMID: 25112833.

6: Xu X, Dong F, Yang Y, Wang Y, Wang R, Shen X. Sex-specific effects of long-term exposure to bisphenol-A on anxiety- and depression-like behaviors in adult mice. Chemosphere. 2014 Aug 8;120C:258-266. doi: 10.1016/j.chemosphere.2014.07.021. [Epub ahead of print] PubMed PMID: 25112706.

7: Héliès-Toussaint C, Peyre L, Costanzo C, Chagnon MC, Rahmani R. Is bisphenol S a safe substitute for bisphenol A in terms of metabolic function? An in vitro study. Toxicol Appl Pharmacol. 2014 Aug 8. pii: S0041-008X(14)00291-9. doi: 10.1016/j.taap.2014.07.025. [Epub ahead of print] PubMed PMID: 25111128.

8: Zhao Q, Ma Y, Sun NX, Ye C, Zhang Q, Sun SH, Xu C, Wang F, Li W. Exposure to bisphenol A at physiological concentrations observed in Chinese children promotes primordial follicle growth through the PI3K/Akt pathway in an ovarian culture system. Toxicol In Vitro. 2014 Aug 7. pii: S0887-2333(14)00141-6. doi: 10.1016/j.tiv.2014.07.009. [Epub ahead of print] PubMed PMID: 25108129.

9: Saura M, Marquez S, Reventun P, Olea-Herrero N, Isabel Arenas M, Moreno-Gómez-Toledano R, Gómez-Parrizas M, Muñóz-Moreno C, González-Santander M, Zaragoza C, Bosch RJ. Oral administration of bisphenol A induces high blood pressure through angiotensin II/CaMKII-dependent uncoupling of eNOS. FASEB J. 2014 Aug 7. pii: fj.14-252460. [Epub ahead of print] PubMed PMID: 25103225.

10: Kaur K, Chauhan V, Gu F, Chauhan A. Bisphenol A induces oxidative stress and mitochondrial dysfunction in lymphoblasts from children with autism and unaffected siblings. Free Radic Biol Med. 2014 Aug 4. pii: S0891-5849(14)00347-5. doi: 10.1016/j.freeradbiomed.2014.07.030. [Epub ahead of print] PubMed PMID: 25101517.

11: Mattison DR, Karyakina N, Goodman M, LaKind JS. Pharmaco- and toxicokinetics of selected exogenous and endogenous estrogens: A review of the data and identification of knowledge gaps. Crit Rev Toxicol. 2014 Aug 6:1-29. [Epub ahead of print] PubMed PMID: 25099693.

12: Starovoytov ON, Liu Y, Tan L, Yang S. Effects of the Hydroxyl Group on Phenyl Based Ligand/ERγ Protein Binding. Chem Res Toxicol. 2014 Aug 7. [Epub ahead of print] PubMed PMID: 25098505.

13: Menard S, Guzylack-Piriou L, Leveque M, Braniste V, Lencina C, Naturel M, Moussa L, Sekkal S, Harkat C, Gaultier E, Theodorou V, Houdeau E. Food intolerance at adulthood after perinatal exposure to the endocrine disruptor bisphenol A. FASEB J. 2014 Aug 1. pii: fj.14-255380. [Epub ahead of print] PubMed PMID: 25085925.

14: Xu XB, He Y, Song C, Ke X, Fan SJ, Peng WJ, Tan R, Kawata M, Matsuda KI, Pan BX, Kato N. Bisphenol a regulates the estrogen receptor alpha signaling in developing hippocampus of male rats through estrogen receptor. Hippocampus. 2014 Jul 30. doi: 10.1002/hipo.22336. [Epub ahead of print] PubMed PMID: 25074486.

15: Padmanabhan V, Veiga-Lopez A. REPRODUCTION SYMPOSIUM: Developmental programming of reproductive and metabolic health. J Anim Sci. 2014 Aug;92(8):3199-210. doi: 10.2527/jas.2014-7637. PubMed PMID: 25074449.

16: Braun JM, Lanphear BP, Calafat AM, Deria S, Khoury J, Howe CJ, Venners SA. Early-Life Bisphenol A Exposure and Child Body Mass Index: A Prospective Cohort Study. Environ Health Perspect. 2014 Jul 29. [Epub ahead of print] PubMed PMID: 25073184.

17: Yang M, Lee HS, Hwang MW, Jin M. Effects of Korean red ginseng (Panax Ginseng Meyer) on bisphenol A exposure and gynecologic complaints: single blind, randomized clinical trial of efficacy and safety. BMC Complement Altern Med. 2014 Jul 25;14(1):265. doi: 10.1186/1472-6882-14-265. PubMed PMID: 25063041; PubMed Central PMCID: PMC4122766.

18: Philippat C, Botton J, Calafat AM, Ye X, Charles MA, Slama R; EDEN Study Group. Prenatal exposure to phenols and growth in boys. Epidemiology. 2014 Sep;25(5):625-35. doi: 10.1097/EDE.0000000000000132. PubMed PMID: 25061923.

19: Ribeiro-Varandas E, Ressurreição F, Viegas W, Delgado M. Cytotoxicity of Eupatorium cannabinum L. ethanolic extract against colon cancer cells and interactions with Bisphenol A and Doxorubicin. BMC Complement Altern Med. 2014 Jul 24;14(1):264. doi: 10.1186/1472-6882-14-264. PubMed PMID: 25056133; PubMed Central PMCID: PMC4117973.

20: Mileva G, Baker SL, Konkle AT, Bielajew C. Bisphenol-A: epigenetic reprogramming and effects on reproduction and behavior. Int J Environ Res Public Health. 2014 Jul 22;11(7):7537-61. doi: 10.3390/ijerph110707537. PubMed PMID: 25054232; PubMed Central PMCID: PMC4113893.

21: Sullivan AW, Beach EC, Stetzik LA, Perry A, D'Addezio AS, Cushing BS, Patisaul HB. A novel model for neuroendocrine toxicology: Neurobehavioral effects of BPA exposure in a prosocial species, the prairie vole (Microtus ochrogaster). Endocrinology. 2014 Jul 22:en20141379. [Epub ahead of print] PubMed PMID:25051448.

22: Yang CW, Chou WC, Chen KH, Cheng AL, Mao IF, Chao HR, Chuang CY. Visualized gene network reveals the novel target transcripts sox2 and pax6 of neuronal development in trans-placental exposure to bisphenol a. PLoS One. 2014 Jul

22;9(7):e100576. doi: 10.1371/journal.pone.0100576. eCollection 2014. PubMed PMID: 25051057; PubMed Central PMCID: PMC4106758.

23: Yang Y, Guan J, Yin J, Shao B, Li H. Urinary levels of bisphenol analogues in residents living near a manufacturing plant in south China. Chemosphere. 2014 Oct;112:481-6. doi: 10.1016/j.chemosphere.2014.05.004. Epub 2014 Jun 5. PubMed PMID: 25048943.

24: Zhang Y, Gao J, Xu P, Yuan C, Qin F, Liu S, Zheng Y, Yang Y, Wang Z. Low-dose bisphenol A disrupts gonad development and steroidogenic genes expression in adult female rare minnow Gobiocypris rarus. Chemosphere. 2014 Oct;112:435-42. doi: 10.1016/j.chemosphere.2014.04.089. Epub 2014 May 29. PubMed PMID: 25048937.

25: Song M, Liang D, Liang Y, Chen M, Wang F, Wang H, Jiang G. Assessing developmental toxicity and estrogenic activity of halogenated bisphenol A on zebrafish (Danio rerio). Chemosphere. 2014 Oct;112:275-81. doi: 10.1016/j.chemosphere.2014.04.084. Epub 2014 May 20. PubMed PMID: 25048916.

26: Boucher JG, Husain M, Rowan-Carroll A, Williams A, Yauk CL, Atlas E. Identification of mechanisms of action of bisphenol A-induced human preadipocyte differentiation by transcriptional profiling. Obesity (Silver Spring). 2014 Jul 22. doi: 10.1002/oby.20848. [Epub ahead of print] PubMed PMID: 25047013.

27: Gao J, Zhang Y, Yang Y, Yuan C, Qin F, Liu S, Zheng Y, Wang Z. Molecular characterization of PXR and two sulfotransferases and hepatic transcripts of PXR,two sulfotransferases and CYP3A responsive to bisphenol A in rare minnow Gobiocypris rarus. Mol Biol Rep. 2014 Jul 20. [Epub ahead of print] PubMed PMID: 25038724.

28: Bemrah N, Jean J, Rivière G, Sanaa M, Leconte S, Bachelot M, Deceuninck Y, Bizec BL, Dauchy X, Roudot AC, Camel V, Grob K, Feidt C, Picard-Hagen N, Badot PM, Foures F, Leblanc JC. Assessment of dietary exposure to bisphenol A in the French population with a special focus on risk characterisation for pregnant French women. Food Chem Toxicol. 2014 Jul 9;72C:90-97. doi: 10.1016/j.fct.2014.07.005. [Epub ahead of print] PubMed PMID: 25014159.

29: Moos RK, Angerer J, Wittsiepe J, Wilhelm M, Brüning T, Koch HM. Rapid determination of nine parabens and seven other environmental phenols in urine samples of German children and adults. Int J Hyg Environ Health. 2014 Jun 20. pii: S1438-4639(14)00047-9. doi: 10.1016/j.ijheh.2014.06.003. [Epub ahead of print] PubMed PMID: 25008406.

30: Jedeon K, Loiodice S, Marciano C, Vinel A, Canivenc Lavier MC, Berdal A, Babajko S. Estrogen and bisphenol A affect male rat enamel formation and promote ameloblast proliferation. Endocrinology. 2014 Jul 8:en20132161. [Epub ahead of print] PubMed PMID: 25004094.

31: Schiller V, Zhang X, Hecker M, Schäfers C, Fischer R, Fenske M. Species-specific considerations in using the fish embryo test as an alternative to identify endocrine disruption. Aquat Toxicol. 2014 Jun 20;155C:62-72. doi: 10.1016/j.aquatox.2014.06.005. [Epub ahead of print] PubMed PMID: 24992288.

32: Dhimolea E, Wadia PR, Murray TJ, Settles ML, Treitman JD, Sonnenschein C, Shioda T, Soto AM. Prenatal exposure to BPA alters the epigenome of the rat mammary gland and increases the propensity to neoplastic development. PLoS One. 2014 Jul 2;9(7):e99800. doi: 10.1371/journal.pone.0099800. eCollection 2014. PubMed PMID: 24988533; PubMed Central PMCID: PMC4079328.

33: Kasper-Sonnenberg M, Koch HM, Wittsiepe J, Brüning T, Wilhelm M. Phthalate

metabolites and bisphenol A in urines from German school-aged children: Results of the Duisburg Birth Cohort and Bochum Cohort Studies. Int J Hyg Environ Health. 2014 Jun 12. pii: S1438-4639(14)00044-3. doi: 10.1016/j.ijheh.2014.06.001. [Epub ahead of print] PubMed PMID: 24986699.

34: Tando S, Itoh K, Yaoi T, Ogi H, Goto S, Mori M, Fushiki S. Bisphenol A exposure disrupts the development of the locus coeruleus-noradrenergic system in mice. Neuropathology. 2014 Jul 2. doi: 10.1111/neup.12137. [Epub ahead of print] PubMed PMID: 24985408.

35: McKinney C, Rue T, Sathyanarayana S, Martin M, Seminario AL, DeRouen T. Dental sealants and restorations and urinary bisphenol A concentrations in children in the 2003-2004 National Health and Nutrition Examination Survey. J Am Dent Assoc. 2014 Jul;145(7):745-50. doi: 10.14219/jada.2014.34. PubMed PMID: 24982281.

36: Maradonna F, Nozzi V, Dalla Valle L, Traversi I, Gioacchini G, Benato F, Colletti E, Gallo P, Di Marco Pisciottano I, Mita DG, Hardiman G, Mandich A, Carnevali O. A developmental hepatotoxicity study of dietary bisphenol A in Sparus aurata juveniles. Comp Biochem Physiol C Toxicol Pharmacol. 2014 Jun 27;166C:1-13. doi: 10.1016/j.cbpc.2014.06.004. [Epub ahead of print] PubMed PMID: 24981242.

37: Chang Y, Nguyen C, Paranjpe VR, Gilliland F, Zhang JJ. Analysis of bisphenol A diglycidyl ether (BADGE) and its hydrolytic metabolites in biological specimens by high-performance liquid chromatography and tandem mass spectrometry. J Chromatogr B Analyt Technol Biomed Life Sci. 2014 Aug 15;965:33-8. doi:10.1016/j.jchromb.2014.06.005. Epub 2014 Jun 18. PubMed PMID: 24980807.

38: Bowman RE, Luine V, Khandaker H, Villafane JJ, Frankfurt M. Adolescent bisphenol-A exposure decreases dendritic spine density: Role of sex and age. Synapse. 2014 Jun 27. doi: 10.1002/syn.21758. [Epub ahead of print] PubMed PMID: 24975924.

39: Vandenberg LN, Welshons WV, Vom Saal FS, Toutain PL, Myers JP. Should oral gavage be abandoned in toxicity testing of endocrine disruptors? Environ Health. 2014 Jun 25;13(1):46. doi: 10.1186/1476-069X-13-46. PubMed PMID: 24961440; PubMed Central PMCID: PMC4069342.

40: García-Arevalo M, Alonso-Magdalena P, Rebelo Dos Santos J, Quesada I, Carneiro EM, Nadal A. Exposure to bisphenol-A during pregnancy partially mimics the effects of a high-fat diet altering glucose homeostasis and gene expression in adult male mice. PLoS One. 2014 Jun 24;9(6):e100214. doi: 10.1371/journal.pone.0100214. eCollection 2014. PubMed PMID: 24959901; PubMed Central PMCID: PMC4069068.

41: Liang X, Liu F, He J. Synthesis of none Bisphenol A structure dimethacrylate monomer and characterization for dental composite applications. Dent Mater. 2014 Aug;30(8):917-25. doi: 10.1016/j.dental.2014.05.021. Epub 2014 Jun 18. PubMed PMID: 24950804.

42: Petzold S, Averbeck M, Simon JC, Lehmann I, Polte T. Lifetime-dependent effects of bisphenol A on asthma development in an experimental mouse model. PLoS One. 2014 Jun 20;9(6):e100468. doi: 10.1371/journal.pone.0100468. eCollection 2014. PubMed PMID: 24950052; PubMed Central PMCID: PMC4065062.

43: Ferguson KK, Peterson KE, Lee JM, Mercado-García A, Blank-Goldenberg C, Téllez-Rojo MM, Meeker JD. Prenatal and peripubertal phthalates and bisphenol A in relation to sex hormones and puberty in boys. Reprod Toxicol. 2014

Aug;47:70-6. doi: 10.1016/j.reprotox.2014.06.002. Epub 2014 Jun 16. PubMed PMID: 24945889; PubMed Central PMCID: PMC4117729.

44: Corbel T, Gayrard V, Puel S, Lacroix MZ, Berrebi A, Gil S, Viguié C, Toutain PL, Picard-Hagen N. Bidirectional placental transfer of Bisphenol A and its main metabolite, Bisphenol A-Glucuronide, in the isolated perfused human placenta. Reprod Toxicol. 2014 Aug;47:51-8. doi: 10.1016/j.reprotox.2014.06.001. Epub 2014 Jun 14. PubMed PMID: 24933518.

45: Jeng HA. Exposure to endocrine disrupting chemicals and male reproductive health. Front Public Health. 2014 Jun 5;2:55. doi: 10.3389/fpubh.2014.00055. eCollection 2014. Review. PubMed PMID: 24926476; PubMed Central PMCID: PMC4046332.

46: Liu L, Xia T, Zhang X, Barr DB, Alamdar A, Zhang J, Tian M, Huang Q, Shen H. Biomonitoring of infant exposure to phenolic endocrine disruptors using urine expressed from disposable gel diapers. Anal Bioanal Chem. 2014 Aug;406(20):5049-54. doi: 10.1007/s00216-014-7908-3. Epub 2014 Jun 13. PubMed PMID: 24924209.

47: Veiga-Lopez A, Beckett EM, Abi Salloum B, Ye W, Padmanabhan V. Developmental programming: Prenatal BPA treatment disrupts timing of LH surge and ovarian follicular wave dynamics in adult sheep. Toxicol Appl Pharmacol. 2014 Jun 9;279(2):119-128. doi: 10.1016/j.taap.2014.05.016. [Epub ahead of print] PubMed PMID: 24923655.

48: Zhang Y, Yuan C, Qin F, Hu G, Wang Z. Molecular characterization of gdf9 and bmp15 genes in rare minnow Gobiocypris rarus and their expression upon bisphenol A exposure in adult females. Gene. 2014 Aug 10;546(2):214-21. doi: 10.1016/j.gene.2014.06.013. Epub 2014 Jun 7. PubMed PMID: 24914497.

49: Mervish N, McGovern KJ, Teitelbaum SL, Pinney SM, Windham GC, Biro FM, Kushi LH, Silva MJ, Ye X, Calafat AM, Wolff MS; BCERP. Dietary predictors of urinary environmental biomarkers in young girls, BCERP, 2004-7. Environ Res. 2014 Aug;133:12-9. doi: 10.1016/j.envres.2014.04.040. Epub 2014 Jun 3. PubMed PMID: 24906063; PubMed Central PMCID: PMC4119560.

50: Yin R, Gu L, Li M, Jiang C, Cao T, Zhang X. Gene expression profiling analysis of bisphenol A-induced perturbation in biological processes in ER-negative HEK293 cells. PLoS One. 2014 Jun 5;9(6):e98635. doi: 10.1371/journal.pone.0098635. eCollection 2014. PubMed PMID: 24901218; PubMed Central PMCID: PMC4047077.

51: Shanthanagouda AH, Nugegoda D, Patil JG. Effects of bisphenol A and fadrozole exposures on cyp19a1 expression in the Murray rainbowfish, Melanotaenia fluviatilis. Arch Environ Contam Toxicol. 2014 Aug;67(2):270-80. doi:10.1007/s00244-014-0047-1. Epub 2014 Jun 5. PubMed PMID: 24898176.

52: Peretz J, Vrooman L, Ricke WA, Hunt PA, Ehrlich S, Hauser R, Padmanabhan V, Taylor HS, Swan SH, VandeVoort CA, Flaws JA. Bisphenol a and reproductive health: update of experimental and human evidence, 2007-2013. Environ Health Perspect. 2014 Aug;122(8):775-86. doi: 10.1289/ehp.1307728. Epub 2014 Apr 24. PubMed PMID: 24896072; PubMed Central PMCID: PMC4123031.

53: Bittner GD, Yang CZ, Stoner MA. Estrogenic chemicals often leach from BPA-free plastic products that are replacements for BPA-containing polycarbonate products. Environ Health. 2014 May 28;13(1):41. doi: 10.1186/1476-069X-13-41. PubMed PMID: 24886603; PubMed Central PMCID: PMC4063249.

54: Wang J, Jenkins S, Lamartiniere CA. Cell proliferation and apoptosis in rat mammary glands following combinational exposure to bisphenol A and genistein. BMC Cancer. 2014 May 29;14:379. doi: 10.1186/1471-2407-14-379. PubMed PMID: 24884420;PubMed Central PMCID: PMC4049406.

55: Negishi T, Nakagami A, Kawasaki K, Nishida Y, Ihara T, Kuroda Y, Tashiro T, Koyama T, Yoshikawa Y. Altered social interactions in male juvenile cynomolgus monkeys prenatally exposed to bisphenol A. Neurotoxicol Teratol. 2014 Jul-Aug;44:46-52. doi: 10.1016/j.ntt.2014.05.004. Epub 2014 May 29. PubMed PMID: 24882564.

56: Wang B, Wang H, Zhou W, He Y, Zhou Y, Chen Y, Jiang Q. Exposure to bisphenol A among school children in eastern China: A multicenter cross-sectional study. J Expo Sci Environ Epidemiol. 2014 May 28. doi: 10.1038/jes.2014.36. [Epub ahead of print] PubMed PMID: 24866264.

57: Kalyvas H, Andra SS, Charisiadis P, Karaolis C, Makris KC. Influence of household cleaning practices on the magnitude and variability of urinary monochlorinated bisphenol A. Sci Total Environ. 2014 Aug 15;490:254-61. doi: 10.1016/j.scitotenv.2014.04.072. Epub 2014 May 22. PubMed PMID: 24858223.

58: Chen F, Zhou L, Bai Y, Zhou R, Chen L. Sex differences in the adult HPA axis and affective behaviors are altered by perinatal exposure to a low dose of bisphenol A. Brain Res. 2014 Jul 7;1571:12-24. doi: 10.1016/j.brainres.2014.05.010. Epub 2014 May 21. PubMed PMID: 24857958.

59: Stossi F, Bolt MJ, Ashcroft FJ, Lamerdin JE, Melnick JS, Powell RT, Dandekar RD, Mancini MG, Walker CL, Westwick JK, Mancini MA. Defining estrogenic mechanisms of bisphenol A analogs through high throughput microscopy-based contextual assays. Chem Biol. 2014 Jun 19;21(6):743-53. doi: 10.1016/j.chembiol.2014.03.013. Epub 2014 May 22. PubMed PMID: 24856822.

60: Pereira-Fernandes A, Vanparys C, Vergauwen L, Knapen D, Jorens PG, Blust R. Toxicogenomics in the 3T3-L1 Cell Line, a New Approach for Screening of Obesogenic Compounds. Toxicol Sci. 2014 Aug 1;140(2):352-63. doi: 10.1093/toxsci/kfu092. Epub 2014 May 20. PubMed PMID: 24848799.

61: Venisse N, Grignon C, Brunet B, Thévenot S, Bacle A, Migeot V, Dupuis A. Reliable quantification of bisphenol A and its chlorinated derivatives in human urine using UPLC-MS/MS method. Talanta. 2014 Jul;125:284-92. doi: 10.1016/j.talanta.2014.02.064. Epub 2014 Mar 12. PubMed PMID: 24840445.

62: Dhaini HR, Nassif RM. Exposure assessment of endocrine disruptors in bottled drinking water of Lebanon. Environ Monit Assess. 2014 Sep;186(9):5655-62. doi: 10.1007/s10661-014-3810-x. Epub 2014 May 15. PubMed PMID: 24829161.

63: Hulin M, Bemrah N, Nougadère A, Volatier JL, Sirot V, Leblanc JC. Assessment of infant exposure to food chemicals: the French Total Diet Study design. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 2014;31(7):1226-39. doi: 10.1080/19440049.2014.921937. Epub 2014 Jun 5. PubMed PMID: 24827474.

64: Pollock T, Tang B, deCatanzaro D. Triclosan exacerbates the presence of 14C-bisphenol A in tissues of female and male mice. Toxicol Appl Pharmacol. 2014 Jul 15;278(2):116-23. doi: 10.1016/j.taap.2014.04.017. Epub 2014 Apr 29. PubMed PMID: 24784443.

65: Rebuli ME, Cao J, Sluzas E, Delclos KB, Camacho L, Lewis SM, Vanlandingham MM, Patisaul HB. Investigation of the effects of subchronic low dose oral exposure to bisphenol A (BPA) and ethinyl estradiol (EE) on estrogen receptor

expression in the juvenile and adult female rat hypothalamus. Toxicol Sci. 2014 Jul;140(1):190-203. doi: 10.1093/toxsci/kfu074. Epub 2014 Apr 20. PubMed PMID: 24752507.

66: Gilibili RR, Vogl AW, Chang TK, Bandiera SM. Localization of cytochrome P450 and related enzymes in adult rat testis and downregulation by estradiol and bisphenol A. Toxicol Sci. 2014 Jul;140(1):26-39. doi: 10.1093/toxsci/kfu070. Epub 2014 Apr 20. PubMed PMID: 24752506.

67: Lathi RB, Liebert CA, Brookfield KF, Taylor JA, vom Saal FS, Fujimoto VY, Baker VL. Conjugated bisphenol A in maternal serum in relation to miscarriage risk. Fertil Steril. 2014 Jul;102(1):123-8. doi: 10.1016/j.fertnstert.2014.03.024. Epub 2014 Apr 18. PubMed PMID: 24746738.

68: Heffernan A, Sly P, Toms L, Hobson P, Mueller J. Bisphenol A exposure is not associated with area-level socioeconomic index in Australian children using pooled urine samples. Environ Sci Pollut Res Int. 2014 Aug;21(15):9344-55. doi: 10.1007/s11356-014-2882-z. Epub 2014 Apr 16. PubMed PMID: 24737025.

69: Heffernan AL, Aylward LL, Samidurai AJ, Davies PS, Toms LM, Sly PD, Mueller JF. Short term variability in urinary bisphenol A in Australian children. Environ Int. 2014 Jul;68:139-43. doi: 10.1016/j.envint.2014.03.027. Epub 2014 Apr 14. PubMed PMID: 24727068.

70: van Esterik JC, Dollé ME, Lamoree MH, van Leeuwen SP, Hamers T, Legler J, van der Ven LT. Programming of metabolic effects in C57BL/6JxFVB mice by exposure to bisphenol A during gestation and lactation. Toxicology. 2014 Jul 3;321:40-52. doi: 10.1016/j.tox.2014.04.001. Epub 2014 Apr 13. PubMed PMID: 24726836.

71: Leclerc F, Dubois MF, Aris A. Maternal, placental and fetal exposure to bisphenol A in women with and without preeclampsia. Hypertens Pregnancy. 2014 Aug;33(3):341-8. doi: 10.3109/10641955.2014.892607. Epub 2014 Apr 11. PubMed PMID: 24724919.

72: Arbuckle TE, Davis K, Marro L, Fisher M, Legrand M, LeBlanc A, Gaudreau E, Foster WG, Choeurng V, Fraser WD; MIREC Study Group. Phthalate and bisphenol A exposure among pregnant women in Canada--results from the MIREC study. Environ Int. 2014 Jul;68:55-65. doi: 10.1016/j.envint.2014.02.010. Epub 2014 Apr 4. PubMed PMID: 24709781.

73: Udovyk O. Models of science-policy interaction: exploring approaches to Bisphenol A management in the EU. Sci Total Environ. 2014 Jul 1;485-486:23-30. doi: 10.1016/j.scitotenv.2014.03.046. Epub 2014 Apr 1. PubMed PMID: 24704953.

74: Mirmira P, Evans-Molina C. Bisphenol A, obesity, and type 2 diabetes mellitus: genuine concern or unnecessary preoccupation? Transl Res. 2014 Jul;164(1):13-21. doi: 10.1016/j.trsl.2014.03.003. Epub 2014 Mar 13. Review. PubMed PMID: 24686036; PubMed Central PMCID: PMC4058392.

75: Schneider JE, Brozek JM, Keen-Rhinehart E. Our stolen figures: the interface of sexual differentiation, endocrine disruptors, maternal programming, and energy balance. Horm Behav. 2014 Jun;66(1):104-19. doi: 10.1016/j.yhbeh.2014.03.011. Epub 2014 Mar 28. PubMed PMID: 24681201.

76: Engel LS, Buckley JP, Yang G, Liao LM, Satagopan J, Calafat AM, Matthews CE, Cai Q, Ji BT, Cai H, Engel SM, Wolff MS, Rothman N, Zheng W, Xiang YB, Shu XO, Gao YT, Chow WH. Predictors and variability of repeat measurements of urinary phenols and parabens in a cohort of shanghai women and men. Environ Health

Perspect. 2014 Jul;122(7):733-40. doi: 10.1289/ehp.1306830. Epub 2014 Mar 20. PubMed PMID: 24659570; PubMed Central PMCID: PMC4080538.

77: Spanier AJ, Fiorino EK, Trasande L. Bisphenol A exposure is associated with decreased lung function. J Pediatr. 2014 Jun;164(6):1403-8.e1. doi: 10.1016/j.jpeds.2014.02.026. Epub 2014 Mar 20. PubMed PMID: 24657123; PubMed Central PMCID: PMC4035373.

78: Liao C, Kannan K. A survey of alkylphenols, bisphenols, and triclosan in personal care products from China and the United States. Arch Environ Contam Toxicol. 2014 Jul;67(1):50-9. doi: 10.1007/s00244-014-0016-8. Epub 2014 Mar 18. PubMed PMID: 24639116.

79: Sun Q, Cornelis MC, Townsend MK, Tobias DK, Eliassen AH, Franke AA, Hauser R, Hu FB. Association of urinary concentrations of bisphenol A and phthalate metabolites with risk of type 2 diabetes: a prospective investigation in the Nurses' Health Study (NHS) and NHSII cohorts. Environ Health Perspect. 2014 Jun;122(6):616-23. doi: 10.1289/ehp.1307201. Epub 2014 Mar 13. PubMed PMID: 24633239; PubMed Central PMCID: PMC4050512.

80: Helmestam M, Davey E, Stavreus-Evers A, Olovsson M. Bisphenol A affects human endometrial endothelial cell angiogenic activity in vitro. Reprod Toxicol. 2014 Jul;46:69-76. doi: 10.1016/j.reprotox.2014.03.002. Epub 2014 Mar 14. PubMed PMID:24632125.

81: Pouokam GB, Ajaezi GC, Mantovani A, Orisakwe OE, Frazzoli C. Use of Bisphenol A-containing baby bottles in Cameroon and Nigeria and possible risk management and mitigation measures: community as milestone for prevention. Sci Total Environ. 2014 May 15;481:296-302. doi: 10.1016/j.scitotenv.2014.02.026. Epub 2014 Mar 4. PubMed PMID: 24602914.

82: Vom Saal FS, VandeVoort CA, Taylor JA, Welshons WV, Toutain PL, Hunt PA. Bisphenol A (BPA) pharmacokinetics with daily oral bolus or continuous exposure via silastic capsules in pregnant rhesus monkeys: Relevance for human exposures. Reprod Toxicol. 2014 Jun;45:105-16. doi: 10.1016/j.reprotox.2014.01.007. Epub 2014 Feb 25. PubMed PMID: 24582107; PubMed Central PMCID: PMC4035044.

83: Xiao X, Mruk DD, Tang EI, Wong CK, Lee WM, John CM, Turek PJ, Silvestrini B, Cheng CY. Environmental toxicants perturb human Sertoli cell adhesive function via changes in F-actin organization mediated by actin regulatory proteins. Hum Reprod. 2014 Jun;29(6):1279-91. doi: 10.1093/humrep/deu011. Epub 2014 Feb 13. PubMed PMID: 24532171; PubMed Central PMCID: PMC4017941.

84: Zimmers SM, Browne EP, O'Keefe PW, Anderton DL, Kramer L, Reckhow DA, Arcaro KF. Determination of free Bisphenol A (BPA) concentrations in breast milk of U.S. women using a sensitive LC/MS/MS method. Chemosphere. 2014 Jun;104:237-43. doi:10.1016/j.chemosphere.2013.12.085. Epub 2014 Feb 4. PubMed PMID: 24507723.

85: Berman T, Goldsmith R, Göen T, Spungen J, Novack L, Levine H, Amitai Y, Shohat T, Grotto I. Demographic and dietary predictors of urinary bisphenol A concentrations in adults in Israel. Int J Hyg Environ Health. 2014 Jul;217(6):638-44. doi: 10.1016/j.ijheh.2013.11.004. Epub 2013 Dec 6. PubMed PMID: 24411571.

86: Tyl RW. Abbreviated assessment of bisphenol A toxicology literature. Semin Fetal Neonatal Med. 2014 Jun;19(3):195-202. doi: 10.1016/j.siny.2013.11.010. Epub 2013 Dec 31. PubMed PMID: 24388781.

87: Aris A. Estimation of bisphenol A (BPA) concentrations in pregnant women,

fetuses and nonpregnant women in Eastern Townships of Canada. Reprod Toxicol. 2014 Jun;45:8-13. doi: 10.1016/j.reprotox.2013.12.006. Epub 2013 Dec 28. PubMed PMID: 24378374.

88: Patel CJ, Yang T, Hu Z, Wen Q, Sung J, El-Sayed YY, Cohen H, Gould J, Stevenson DK, Shaw GM, Ling XB, Butte AJ; March of Dimes Prematurity Research Center at Stanford University School of Medicine. Investigation of maternal environmental exposures in association with self-reported preterm birth. Reprod Toxicol. 2014 Jun;45:1-7. doi: 10.1016/j.reprotox.2013.12.005. Epub 2013 Dec 27. PubMed PMID: 24373932.

89: Kim MJ, Moon MK, Kang GH, Lee KJ, Choi SH, Lim S, Oh BC, Park do J, Park KS, Jang HC, Park YJ. Chronic exposure to bisphenol A can accelerate atherosclerosis in high-fat-fed apolipoprotein E knockout mice. Cardiovasc Toxicol. 2014 Jun;14(2):120-8. PubMed PMID: 24234673.

90: O'Brien E, Dolinoy DC, Mancuso P. Perinatal bisphenol A exposures increase production of pro-inflammatory mediators in bone marrow-derived mast cells of adult mice. J Immunotoxicol. 2014 Jul-Sep;11(3):205-12. doi: 10.3109/1547691X.2013.822036. Epub 2013 Aug 5. PubMed PMID: 23914806; PubMed Central PMCID: PMC3983174.

Phthalates

1: Bernard L, Décaudin B, Lecoeur M, Richard D, Bourdeaux D, Cueff R, Sautou V; for the Armed Study Group. Analytical methods for the determination of DEHP plasticizer alternatives present in medical devices: A review. Talanta. 2014 Nov 1;129C:39-54. doi: 10.1016/j.talanta.2014.04.069. Epub 2014 May 21. Review. PubMed PMID: 25127563.

2: Geens T, Bruckers L, Covaci A, Schoeters G, Fierens T, Sioen I, Vanermen G, Baeyens W, Morrens B, Loots I, Nelen V, de Bellevaux BN, Larebeke NV, Hond ED. Determinants of bisphenol A and phthalate metabolites in urine of Flemish adolescents. Environ Res. 2014 Aug 12;134C:110-117. doi: 10.1016/j.envres.2014.07.020. [Epub ahead of print] PubMed PMID: 25127521.

3: Zhang Y, Meng X, Chen L, Li D, Zhao L, Zhao Y, Li L, Shi H. Age and Sex-Specific Relationships between Phthalate Exposures and Obesity in Chinese Children at Puberty. PLoS One. 2014 Aug 14;9(8):e104852. doi: 10.1371/journal.pone.0104852. eCollection 2014. PubMed PMID: 25121758.

4: Meeker JD, Ferguson KK. Urinary Phthalate Metabolites Are Associated With Decreased Serum Testosterone in Men, Women, and Children From NHANES 2011-2012. J Clin Endocrinol Metab. 2014 Aug 14:jc20142555. [Epub ahead of print] PubMed PMID: 25121464.

5: Fierens T, Standaert A, Cornelis C, Sioen I, De Henauw S, Willems H, Bellemans M, De Maeyer M, Van Holderbeke M. A semi-probabilistic modelling approach for the estimation of dietary exposure to phthalates in the Belgian adult population. Environ Int. 2014 Aug 8;73C:117-127. doi: 10.1016/j.envint.2014.07.017. [Epub ahead of print] PubMed PMID: 25113625.

6: Han Y, Wang X, Chen G, Xu G, Liu X, Zhu W, Hu P, Zhang Y, Zhu C, Miao J. Di-(2-ethylhexyl) phthalate adjuvantly induces imbalanced humoral immunity in ovalbumin-sensitized BALB/c mice ascribing to T follicular helper cells

hyperfunction. Toxicology. 2014 Aug 2;324C:88-97. doi: 10.1016/j.tox.2014.07.011. [Epub ahead of print] PubMed PMID: 25093321.

7: Christensen K, Sobus J, Phillips M, Blessinger T, Lorber M, Tan YM. Changes in epidemiologic associations with different exposure metrics: A case study of phthalate exposure associations with body mass index and waist circumference. Environ Int. 2014 Aug 1;73C:66-76. doi: 10.1016/j.envint.2014.07.010. [Epub ahead of print] PubMed PMID: 25090576.

8: Shiue I, Hristova K. Higher urinary heavy metal, phthalate and arsenic concentrations accounted for 3-19% of the population attributable risk for high blood pressure: US NHANES, 2009-2012. Hypertens Res. 2014 Jul 31. doi: 10.1038/hr.2014.121. [Epub ahead of print] PubMed PMID: 25077919.

9: Kim SH, Park MJ. Phthalate exposure and childhood obesity. Ann Pediatr Endocrinol Metab. 2014 Jun;19(2):69-75. doi: 10.6065/apem.2014.19.2.69. Epub 2014 Jun 30. Review. PubMed PMID: 25077088; PubMed Central PMCID: PMC4114051.

10: Juhász ML, Marmur ES. A review of selected chemical additives in cosmetic products. Dermatol Ther. 2014 Jul 22. doi: 10.1111/dth.12146. [Epub ahead of print] PubMed PMID: 25052592.

11: Ji Y, Wang F, Zhang L, Shan C, Bai Z, Sun Z, Liu L, Shen B. A comprehensive assessment of human exposure to phthalates from environmental media and food in Tianjin, China. J Hazard Mater. 2014 Jul 2;279C:133-140. doi: 10.1016/j.jhazmat.2014.06.055. [Epub ahead of print] PubMed PMID: 25051237.

12: Min KB, Min JY. Urinary phthalate metabolites and the risk of low bone mineral density and osteoporosis in older women. J Clin Endocrinol Metab. 2014 Jul 22:jc20142279. [Epub ahead of print] PubMed PMID: 25050905.

13: Polanska K, Ligocka D, Sobala W, Hanke W. Phthalate exposure and child development: The Polish Mother and Child Cohort Study. Early Hum Dev. 2014 Sep;90(9):477-85. doi: 10.1016/j.earlhumdev.2014.06.006. Epub 2014 Jul 16. PubMed PMID: 25038557.

14: Jones S, Boisvert A, Duong TB, Francois S, Thrane P, Culty M. Disruption of Rat Testis Development Following Combined In Utero Exposure to the Phytoestrogen Genistein and Anti-Androgenic Plasticizer Di-(2-Ethylhexyl) Phthalate. Biol Reprod. 2014 Jul 16. pii: biolreprod.114.120907. [Epub ahead of print] PubMed PMID: 25031359.

15: Romani F, Tropea A, Scarinci E, Federico A, Dello Russo C, Lisi L, Catino S, Lanzone A, Apa R. Endocrine disruptors and human reproductive failure: the in vitro effect of phthalates on human luteal cells. Fertil Steril. 2014 Jul 10. pii: S0015-0282(14)00504-4. doi: 10.1016/j.fertnstert.2014.05.041. [Epub ahead of print] PubMed PMID: 25016925.

16: Rigden M, Pelletier G, Poon R, Zhu J, Auray-Blais C, Gagnon R, Kubwabo C, Kosarac I, Lalonde K, Cakmak S, Xiao B, Leingartner K, Ku KL, Bose R, Jiao J. Assessment of Urinary Metabolite Excretion After Rat Acute Exposure to Perfluorooctanoic Acid and Other Peroxisomal Proliferators. Arch Environ Contam Toxicol. 2014 Jul 12. [Epub ahead of print] PubMed PMID: 25015730.

17: de Cock M, de Boer MR, Lamoree M, Legler J, van de Bor M. First year growth in relation to prenatal exposure to endocrine disruptors - a Dutch prospective cohort study. Int J Environ Res Public Health. 2014 Jul 10;11(7):7001-21. doi: 10.3390/ijerph110707001. PubMed PMID: 25014249; PubMed Central PMCID:PMC4113857.

18: Zhao Y, Chen L, Li LX, Xie CM, Li D, Shi HJ, Zhang YH. Gender-Specific Relationship Between Prenatal Exposure to Phthalates and Intrauterine Growth Restriction. Pediatr Res. 2014 Jul 8. doi: 10.1038/pr.2014.103. [Epub ahead of print] PubMed PMID: 25003910.

19: Kasper-Sonnenberg M, Koch HM, Wittsiepe J, Brüning T, Wilhelm M. Phthalate metabolites and bisphenol A in urines from German school-aged children: Results of the Duisburg Birth Cohort and Bochum Cohort Studies. Int J Hyg Environ Health. 2014 Jun 12. pii: S1438-4639(14)00044-3. doi: 10.1016/j.ijheh.2014.06.001. [Epub ahead of print] PubMed PMID: 24986699.

20: Bello UM, Madekurozwa MC, Groenewald HB, Aire TA, Arukwe A. The effects on steroidogenesis and histopathology of adult male Japanese quails (Coturnix coturnix japonica) testis following pre-pubertal exposure to di(n-butyl) phthalate (DBP). Comp Biochem Physiol C Toxicol Pharmacol. 2014 Jun 28;166C:24-33. doi: 10.1016/j.cbpc.2014.06.005. [Epub ahead of print] PubMed PMID: 24983780.

21: Fierens T, Cornelis C, Standaert A, Sioen I, De Henauw S, Van Holderbeke M. Modelling the environmental transfer of phthalates and polychlorinated dibenzo-p-dioxins and dibenzofurans into agricultural products: The EN-forc model. Environ Res. 2014 Aug;133:282-93. doi: 10.1016/j.envres.2014.06.005. Epub 2014 Jun 28. PubMed PMID: 24981827.

22: Watkins DJ, Eliot M, Sathyanarayana S, Calafat AM, Yolton K, Lanphear BP, Braun JM. Variability and Predictors of Urinary Concentrations of Phthalate Metabolites during Early Childhood. Environ Sci Technol. 2014 Aug 5;48(15):8881-90. doi: 10.1021/es501744v. Epub 2014 Jul 9. PubMed PMID: 24977926;PubMed Central PMCID: PMC4123928.

23: Wang W, Xu X, Fan CQ. Health hazard assessment of occupationally di-(2-ethylhexyl)-phthalate-exposed workers in China. Chemosphere. 2014 Jun 26;120C:37-44. doi: 10.1016/j.chemosphere.2014.05.053. [Epub ahead of print] PubMed PMID: 24974312.

24: Leng G, Koch HM, Gries W, Schütze A, Langsch A, Brüning T, Otter R. Urinary metabolite excretion after oral dosage of bis(2-propylheptyl) phthalate (DPHP) to five male volunteers - Characterization of suitable biomarkers for human biomonitoring. Toxicol Lett. 2014 Jun 25. pii: S0378-4274(14)00285-9. doi: 10.1016/j.toxlet.2014.06.035. [Epub ahead of print] PubMed PMID: 24973492.

25: Misra S, Singh A, Ratnasekhar CH, Sharma V, Mudiam MK, Ravi Ram K. Identification of Drosophila-based Endpoints for the Assessment and Understanding of Xenobiotic-Mediated Male Reproductive Adversities. Toxicol Sci. 2014 Jun 27. pii: kfu125. [Epub ahead of print] PubMed PMID: 24973093.

26: LaRocca J, Binder AM, McElrath TF, Michels KB. The impact of first trimester phthalate and phenol exposure on IGF2/H19 genomic imprinting and birth outcomes. Environ Res. 2014 Aug;133:396-406. doi: 10.1016/j.envres.2014.04.032. Epub 2014 Jun 25. PubMed PMID: 24972507.

27: Dewalque L, Charlier C, Pirard C. Estimated daily intake and cumulative risk assessment of phthalate diesters in a Belgian general population. Toxicol Lett. 2014 Jun 23. pii: S0378-4274(14)00278-1. doi: 10.1016/j.toxlet.2014.06.028. [Epub ahead of print] PubMed PMID: 24968065.

28: Osachoff HL, Mohammadali M, Skirrow RC, Hall ER, Brown LL, van Aggelen GC, Kennedy CJ, Helbing CC. Evaluating the treatment of a synthetic wastewater

containing a pharmaceutical and personal care product chemical cocktail: Compound removal efficiency and effects on juvenile rainbow trout. Water Res. 2014 Oct 1;62:271-80. doi: 10.1016/j.watres.2014.05.057. Epub 2014 Jun 11. PubMed PMID: 24963889.

29: Sharma S, Ashley JM, Hodgson A, Nisker J. Views of pregnant women and clinicians regarding discussion of exposure to phthalate plasticizers. Reprod Health. 2014 Jun 21;11:47. doi: 10.1186/1742-4755-11-47. PubMed PMID: 24952638; PubMed Central PMCID: PMC4079618.

30: Ernst J, Jann JC, Biemann R, Koch HM, Fischer B. Effects of the environmental contaminants DEHP and TCDD on estradiol synthesis and aryl hydrocarbon receptor and peroxisome proliferator-activated receptor signalling in the human granulosa cell line KGN. Mol Hum Reprod. 2014 Sep;20(9):919-28. doi: 10.1093/molehr/gau045. Epub 2014 Jun 20. PubMed PMID: 24950685.

31: Ferguson KK, Peterson KE, Lee JM, Mercado-García A, Blank-Goldenberg C, Téllez-Rojo MM, Meeker JD. Prenatal and peripubertal phthalates and bisphenol A in relation to sex hormones and puberty in boys. Reprod Toxicol. 2014 Aug;47:70-6. doi: 10.1016/j.reprotox.2014.06.002. Epub 2014 Jun 16. PubMed PMID: 24945889; PubMed Central PMCID: PMC4117729.

32: Weir SM, Talent LG, Anderson TA, Salice CJ. Unraveling the relative importance of oral and dermal contaminant exposure in reptiles: insights from studies using the western fence lizard (Sceloporus occidentalis). PLoS One. 2014 Jun 18;9(6):e99666. doi: 10.1371/journal.pone.0099666. eCollection 2014. PubMed PMID: 24941063; PubMed Central PMCID: PMC4062435.

33: Shin HM, McKone TE, Bennett DH. Attributing population-scale human exposure to various source categories: merging exposure models and biomonitoring data. Environ Int. 2014 Sep;70:183-91. doi: 10.1016/j.envint.2014.05.020. Epub 2014 Jun 14. PubMed PMID: 24934857.

34: Ferguson KK, McElrath TF, Ko YA, Mukherjee B, Meeker JD. Variability in urinary phthalate metabolite levels across pregnancy and sensitive windows of exposure for the risk of preterm birth. Environ Int. 2014 Sep;70:118-24. doi: 10.1016/j.envint.2014.05.016. Epub 2014 Jun 13. PubMed PMID: 24934852; PubMed Central PMCID: PMC4104181.

35: Serrano SE, Karr CJ, Seixas NS, Nguyen RH, Barrett ES, Janssen S, Redmon B, Swan SH, Sathyanarayana S. Dietary phthalate exposure in pregnant women and the impact of consumer practices. Int J Environ Res Public Health. 2014 Jun 12;11(6):6193-215. doi: 10.3390/ijerph110606193. PubMed PMID: 24927036; PubMed Central PMCID: PMC4078574.

36: Jeng HA. Exposure to endocrine disrupting chemicals and male reproductive health. Front Public Health. 2014 Jun 5;2:55. doi: 10.3389/fpubh.2014.00055. eCollection 2014. Review. PubMed PMID: 24926476; PubMed Central PMCID: PMC4046332.

37: Bhat VS, Durham JL, English JC. Derivation of an oral reference dose (RfD) for the plasticizer, di-(2-propylheptyl)phthalate (Palatinol® 10-P). Regul Toxicol Pharmacol. 2014 Jun 9;70(1):65-74. doi: 10.1016/j.yrtph.2014.06.002. [Epub ahead of print] PubMed PMID: 24925829.

38: Gong M, Zhang Y, Weschler CJ. Measurement of phthalates in skin wipes: estimating exposure from dermal absorption. Environ Sci Technol. 2014 Jul 1;48(13):7428-35. doi: 10.1021/es501700u. Epub 2014 Jun 17. PubMed PMID: 24911978.

39: Mervish N, McGovern KJ, Teitelbaum SL, Pinney SM, Windham GC, Biro FM, Kushi LH, Silva MJ, Ye X, Calafat AM, Wolff MS; BCERP. Dietary predictors of urinary environmental biomarkers in young girls, BCERP, 2004-7. Environ Res. 2014 Aug;133:12-9. doi: 10.1016/j.envres.2014.04.040. Epub 2014 Jun 3. PubMed PMID: 24906063; PubMed Central PMCID: PMC4119560.

40: Xu N, Chen P, Liu L, Zeng Y, Zhou H, Li S. Effects of combined exposure to 17α-ethynylestradiol and dibutyl phthalate on the growth and reproduction of adult male zebrafish (Danio rerio). Ecotoxicol Environ Saf. 2014 Jun 3;107C:61-70. doi: 10.1016/j.ecoenv.2014.05.001. [Epub ahead of print] PubMed PMID: 24905698.

41: Kay VR, Bloom MS, Foster WG. Reproductive and developmental effects of phthalate diesters in males. Crit Rev Toxicol. 2014 Jul;44(6):467-98. doi: 10.3109/10408444.2013.875983. Epub 2014 Jun 6. PubMed PMID: 24903855.

42: Patelarou E, Kelly FJ. Indoor exposure and adverse birth outcomes related to fetal growth, miscarriage and prematurity-a systematic review. Int J Environ Res Public Health. 2014 Jun 3;11(6):5904-33. doi: 10.3390/ijerph110605904. PubMed PMID: 24896737; PubMed Central PMCID: PMC4078555.

43: Serrano SE, Braun J, Trasande L, Dills R, Sathyanarayana S. Phthalates and diet: a review of the food monitoring and epidemiology data. Environ Health. 2014 Jun 2;13(1):43. doi: 10.1186/1476-069X-13-43. PubMed PMID: 24894065; PubMed Central PMCID: PMC4050989.

44: Pike JW, McDowell E, McCahan SM, Johnson KJ. Identification of gene expression changes in postnatal rat foreskin after in utero anti-androgen exposure. Reprod Toxicol. 2014 Aug;47:42-50. doi: 0.1016/j.reprotox.2014.05.011. Epub 2014 Jun 2. PubMed PMID: 24893172.

45: Frederiksen H, Kuiri-Hänninen T, Main KM, Dunkel L, Sankilampi U. A Longitudinal Study of Urinary Phthalate Excretion in 58 Full-Term and 67 Preterm Infants from Birth through 14 Months. Environ Health Perspect. 2014 May 30. [Epub ahead of print] PubMed PMID: 24879654.

46: Murphy CJ, Stermer AR, Richburg JH. Age- and species-dependent infiltration of macrophages into the testis of rats and mice exposed to mono-(2-Ethylhexyl) phthalate (MEHP). Biol Reprod. 2014 Jul;91(1):18. doi: 10.1095/biolreprod.113.115527. Epub 2014 May 29. PubMed PMID: 24876407.

47: Gaspar FW, Castorina R, Maddalena RL, Nishioka MG, McKone TE, Bradman A. Phthalate exposure and risk assessment in california child care facilities. Environ Sci Technol. 2014 Jul 1;48(13):7593-601. doi: 10.1021/es501189t. Epub 2014 Jun 12. PubMed PMID: 24870214.

48: Kolena B, Petrovicova I, Pilka T, Pucherova Z, Munk M, Matula B, Vankova V, Petlus P, Jenisova Z, Rozova Z, Wimmerova S, Trnovec T. Phthalate exposure and health-related outcomes in specific types of work environment. Int J Environ Res Public Health. 2014 May 26;11(6):5628-39. doi: 10.3390/ijerph110605628. PubMed PMID: 24865398; PubMed Central PMCID: PMC4078538.

49: Pereira-Fernandes A, Vanparys C, Vergauwen L, Knapen D, Jorens PG, Blust R. Toxicogenomics in the 3T3-L1 Cell Line, a New Approach for Screening of Obesogenic Compounds. Toxicol Sci. 2014 Aug 1;140(2):352-63. doi: 10.1093/toxsci/kfu092. Epub 2014 May 20. PubMed PMID: 24848799.

50: Ferguson KK, Cantonwine DE, Rivera-González LO, Loch-Caruso R, Mukherjee B,

Anzalota Del Toro LV, Jiménez-Vélez B, Calafat AM, Ye X, Alshawabkeh AN, Cordero JF, Meeker JD. Urinary phthalate metabolite associations with biomarkers of inflammation and oxidative stress across pregnancy in Puerto Rico. Environ Sci Technol. 2014 Jun 17;48(12):7018-25. doi: 10.1021/es502076j. Epub 2014 Jun 6. PubMed PMID: 24845688; PubMed Central PMCID: PMC4066910.

51: Dhaini HR, Nassif RM. Exposure assessment of endocrine disruptors in bottled drinking water of Lebanon. Environ Monit Assess. 2014 Sep;186(9):5655-62. doi: 10.1007/s10661-014-3810-x. Epub 2014 May 15. PubMed PMID: 24829161.

52: Alves A, Kucharska A, Erratico C, Xu F, Den Hond E, Koppen G, Vanermen G, Covaci A, Voorspoels S. Human biomonitoring of emerging pollutants through non-invasive matrices: state of the art and future potential. Anal Bioanal Chem. 2014 Jul;406(17):4063-88. doi: 10.1007/s00216-014-7748-1. Epub 2014 May 15. PubMed PMID: 24828974.

53: Hulin M, Bemrah N, Nougadère A, Volatier JL, Sirot V, Leblanc JC. Assessment of infant exposure to food chemicals: the French Total Diet Study design. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 2014;31(7):1226-39. doi: 10.1080/19440049.2014.921937. Epub 2014 Jun 5. PubMed PMID: 24827474.

54: Stabile L, Cauda E, Marini S, Buonanno G. Metrological assessment of a portable analyzer for monitoring the particle size distribution of ultrafine particles. Ann Occup Hyg. 2014 Aug;58(7):860-76. doi: 10.1093/annhyg/meu025. Epub 2014 May 10. PubMed PMID: 24817159.

55: Christensen KL, Makris SL, Lorber M. Generation of hazard indices for cumulative exposure to phthalates for use in cumulative risk assessment. Regul Toxicol Pharmacol. 2014 Aug;69(3):380-9. doi: 10.1016/j.yrtph.2014.04.019. Epub 2014 May 9. PubMed PMID: 24815596.

56: Hannon PR, Peretz J, Flaws JA. Daily exposure to Di(2-ethylhexyl) phthalate alters estrous cyclicity and accelerates primordial follicle recruitment potentially via dysregulation of the phosphatidylinositol 3-kinase signaling pathway in adult mice. Biol Reprod. 2014 Jun;90(6):136. doi: 10.1095/biolreprod.114.119032. Epub 2014 May 7. PubMed PMID: 24804967.

57: Shi S, Zhao B. Modeled exposure assessment via inhalation and dermal pathways to airborne semivolatile organic compounds (SVOCs) in residences. Environ Sci Technol. 2014 May 20;48(10):5691-9. doi: 10.1021/es500235q. Epub 2014 Apr 30. PubMed PMID: 24730560.

58: North ML, Takaro TK, Diamond ML, Ellis AK. Effects of phthalates on the development and expression of allergic disease and asthma. Ann Allergy Asthma Immunol. 2014 Jun;112(6):496-502. doi: 10.1016/j.anai.2014.03.013. Epub 2014 Apr 13. Review. PubMed PMID: 24726194.

59: Arbuckle TE, Davis K, Marro L, Fisher M, Legrand M, LeBlanc A, Gaudreau E, Foster WG, Choeurng V, Fraser WD; MIREC Study Group. Phthalate and bisphenol A exposure among pregnant women in Canada--results from the MIREC study. Environ Int. 2014 Jul;68:55-65. doi: 10.1016/j.envint.2014.02.010. Epub 2014 Apr 4. PubMed PMID: 24709781.

60: Ait Bamai Y, Shibata E, Saito I, Araki A, Kanazawa A, Morimoto K, Nakayama K, Tanaka M, Takigawa T, Yoshimura T, Chikara H, Saijo Y, Kishi R. Exposure to house dust phthalates in relation to asthma and allergies in both children and adults. Sci Total Environ. 2014 Jul 1;485-486:153-63. doi: 10.1016/j.scitotenv.2014.03.059. Epub 2014 Apr 3. PubMed PMID: 24704966.

61: Sui HX, Zhang L, Wu PG, Song Y, Yong L, Yang DJ, Jiang DG, Liu ZP. Concentration of di(2-ethylhexyl) phthalate (DEHP) in foods and its dietary exposure in China. Int J Hyg Environ Health. 2014 Jul;217(6):695-701. doi: 10.1016/j.ijheh.2014.02.006. Epub 2014 Mar 12. PubMed PMID: 24680371.

62: Liu T, Li N, Zhu J, Yu G, Guo K, Zhou L, Zheng D, Qu X, Huang J, Chen X, Wang S, Ye L. Effects of di-(2-ethylhexyl) phthalate on the hypothalamus-pituitary-ovarian axis in adult female rats. Reprod Toxicol. 2014 Jul;46:141-7. doi: 10.1016/j.reprotox.2014.03.006. Epub 2014 Mar 24. PubMed PMID: 24675100.

63: Das MT, Ghosh P, Thakur IS. Intake estimates of phthalate esters for South Delhi population based on exposure media assessment. Environ Pollut. 2014 Jun;189:118-25. doi: 10.1016/j.envpol.2014.02.021. Epub 2014 Mar 21. PubMed PMID: 24657605.

64: Buser MC, Murray HE, Scinicariello F. Age and sex differences in childhood and adulthood obesity association with phthalates: analyses of NHANES 2007-2010. Int J Hyg Environ Health. 2014 Jul;217(6):687-94. doi: 10.1016/j.ijheh.2014.02.005. Epub 2014 Mar 5. PubMed PMID: 24657244.

65: Sun Q, Cornelis MC, Townsend MK, Tobias DK, Eliassen AH, Franke AA, Hauser R, Hu FB. Association of urinary concentrations of bisphenol A and phthalate metabolites with risk of type 2 diabetes: a prospective investigation in the Nurses' Health Study (NHS) and NHSII cohorts. Environ Health Perspect. 2014 Jun;122(6):616-23. doi: 10.1289/ehp.1307201. Epub 2014 Mar 13. PubMed PMID: 24633239; PubMed Central PMCID: PMC4050512.

66: Chang JW, Yan BR, Chang MH, Tseng SH, Kao YM, Chen JC, Lee CC. Cumulative risk assessment for plasticizer-contaminated food using the hazard index approach. Environ Pollut. 2014 Jun;189:77-84. doi: 10.1016/j.envpol.2014.02.005. Epub 2014 Mar 15. PubMed PMID: 24631976.

67: Hejmej A, Bilinska B. A role of junction-mediated interactions in cells of the male reproductive tract: impact of prenatal, neonatal, and prepubertal exposure to anti-androgens on adult reproduction. Histol Histopathol. 2014 Jul;29(7):815-30. Epub 2014 Jan 31. PubMed PMID: 24481863.

68: Callesen M, Bekö G, Weschler CJ, Langer S, Brive L, Clausen G, Toftum J, Sigsgaard T, Høst A, Jensen TK. Phthalate metabolites in urine and asthma, allergic rhinoconjunctivitis and atopic dermatitis in preschool children. Int J Hyg Environ Health. 2014 Jul;217(6):645-52. doi: 10.1016/j.ijheh.2013.12.001. Epub 2013 Dec 13. PubMed PMID: 24388279.

69: Shu H, Jönsson BA, Larsson M, Nånberg E, Bornehag CG. PVC flooring at home and development of asthma among young children in Sweden, a 10-year follow-up. Indoor Air. 2014 Jun;24(3):227-35. doi: 10.1111/ina.12074. Epub 2013 Nov 9. PubMed PMID: 24118287.

70: Li X, Jiang L, Cheng L, Chen H. Dibutyl phthalate-induced neurotoxicity in the brain of immature and mature rat offspring. Brain Dev. 2014 Sep;36(8):653-60. doi: 10.1016/j.braindev.2013.09.002. Epub 2013 Sep 26. PubMed PMID: 24075507.

Parabens

1: Wróbel AM, Gregoraszczuk EL. Actions of methyl-, propyl- and butylparaben on

estrogen receptor-α and -β and the progesterone receptor in MCF-7 cancer cells and non-cancerous MCF-10A cells. Toxicol Lett. 2014 Aug 13. pii: S0378-4274(14)01299-5. doi: 10.1016/j.toxlet.2014.08.012. [Epub ahead of print] PubMed PMID: 25128701.

2: Vela-Soria F, Ballesteros O, Zafra-Gómez A, Ballesteros L, Navalón A. A multiclass method for the analysis of endocrine disrupting chemicals in human urine samples. Sample treatment by dispersive liquid-liquid microextraction. Talanta. 2014 Nov 1;129C:209-218. doi: 10.1016/j.talanta.2014.05.016. Epub 2014 May 29. PubMed PMID: 25127586.

3: Shiue I, Hristova K. Higher urinary heavy metal, phthalate and arsenic concentrations accounted for 3-19% of the population attributable risk for high blood pressure: US NHANES, 2009-2012. Hypertens Res. 2014 Jul 31. doi: 10.1038/hr.2014.121. [Epub ahead of print] PubMed PMID: 25077919.

4: Philippat C, Botton J, Calafat AM, Ye X, Charles MA, Slama R; EDEN Study Group. Prenatal exposure to phenols and growth in boys. Epidemiology. 2014 Sep;25(5):625-35. doi: 10.1097/EDE.0000000000000132. PubMed PMID: 25061923.

5: Juhász ML, Marmur ES. A review of selected chemical additives in cosmetic products. Dermatol Ther. 2014 Jul 22. doi: 10.1111/dth.12146. [Epub ahead of print] PubMed PMID: 25052592.

6: Darbre PD, Harvey PW. Parabens can enable hallmarks and characteristics of cancer in human breast epithelial cells: a review of the literature with reference to new exposure data and regulatory status. J Appl Toxicol. 2014 Sep;34(9):925-38. doi: 10.1002/jat.3027. Epub 2014 Jul 22. PubMed PMID: 25047802.

7: Moos RK, Angerer J, Wittsiepe J, Wilhelm M, Brüning T, Koch HM. Rapid determination of nine parabens and seven other environmental phenols in urine samples of German children and adults. Int J Hyg Environ Health. 2014 Jun 20. pii: S1438-4639(14)00047-9. doi: 10.1016/j.ijheh.2014.06.003. [Epub ahead of print] PubMed PMID: 25008406.

8: Mervish N, McGovern KJ, Teitelbaum SL, Pinney SM, Windham GC, Biro FM, Kushi LH, Silva MJ, Ye X, Calafat AM, Wolff MS; BCERP. Dietary predictors of urinary environmental biomarkers in young girls, BCERP, 2004-7. Environ Res. 2014 Aug;133:12-9. doi: 10.1016/j.envres.2014.04.040. Epub 2014 Jun 3. PubMed PMID: 24906063; PubMed Central PMCID: PMC4119560.

9: Engel LS, Buckley JP, Yang G, Liao LM, Satagopan J, Calafat AM, Matthews CE, Cai Q, Ji BT, Cai H, Engel SM, Wolff MS, Rothman N, Zheng W, Xiang YB, Shu XO, Gao YT, Chow WH. Predictors and variability of repeat measurements of urinary phenols and parabens in a cohort of shanghai women and men. Environ Health Perspect. 2014 Jul;122(7):733-40. doi: 10.1289/ehp.1306830. Epub 2014 Mar 20. PubMed PMID: 24659570; PubMed Central PMCID: PMC4080538.

10: Błędzka D, Gromadzińska J, Wąsowicz W. Parabens. From environmental studies to human health. Environ Int. 2014 Jun;67:27-42. doi: 10.1016/j.envint.2014.02.007. Epub 2014 Mar 19. Review. PubMed PMID: 24657492.

11: Khanna S, Dash PR, Darbre PD. Exposure to parabens at the concentration of maximal proliferative response increases migratory and invasive activity of human breast cancer cells in vitro. J Appl Toxicol. 2014 Sep;34(9):1051-9. doi: 10.1002/jat.3003. Epub 2014 Mar 20. PubMed PMID: 24652746.

Per- and polyfluorinated compounds

1: Osuna CE, Grandjean P, Weihe P, El-Fawal HA. Autoantibodies Associated with Prenatal and Childhood Exposure to Environmental Chemicals in Faroese Children. Toxicol Sci. 2014 Aug 14. pii: kfu163. [Epub ahead of print] PubMed PMID: 25124724.

2: Gao B, He X, Liu W, Zhang H, Saito N, Tsuda S. Distribution of perfluoroalkyl compounds in rats: Indication for using hair as bioindicator of exposure. J Expo Sci Environ Epidemiol. 2014 Aug 13. doi: 10.1038/jes.2014.54. [Epub ahead of print] PubMed PMID: 25118134.

3: Yahia D, Haruka I, Kagashi Y, Tsuda S. 8-Hydroxy-2'-deoxyguanosine as a biomarker of oxidative DNA damage induced by perfluorinated compounds in TK6 cells. Environ Toxicol. 2014 Aug 12. doi: 10.1002/tox.22034. [Epub ahead of print] PubMed PMID: 25113910.

4: Squadrone S, Ciccotelli V, Favaro L, Scanzio T, Prearo M, Abete MC. Fish consumption as a source of human exposure to perfluorinated alkyl substances in Italy: Analysis of two edible fish from Lake Maggiore. Chemosphere. 2014 Nov;114:181-6. doi: 10.1016/j.chemosphere.2014.04.085. Epub 2014 May 17. PubMed PMID: 25113200.

5: Persson S, Magnusson U. Environmental pollutants and alterations in the reproductive system in wild male mink (Neovison vison) from Sweden. Chemosphere. 2014 Aug 4;120C:237-245. doi: 10.1016/j.chemosphere.2014.07.009. [Epub ahead of print] PubMed PMID: 25103085.

6: Robledo CA, Yeung E, Mendola P, Sundaram R, Maisog J, Sweeney AM, Barr DB, Buck Louis GM. Preconception Maternal and Paternal Exposure to Persistent Organic Pollutants and Birth Size: The LIFE Study. Environ Health Perspect. 2014 Aug 5. [Epub ahead of print] PubMed PMID: 25095280.

7: Heo JJ, Lee JW, Kim SK, Oh JE. Foodstuff analyses show that seafood and water are major perfluoroalkyl acids (PFAAs) sources to humans in Korea. J Hazard Mater. 2014 Jul 14;279C:402-409. doi: 10.1016/j.jhazmat.2014.07.004. [Epub ahead of print] PubMed PMID: 25093550.

8: Wang S, Lv Q, Yang Y, Guo LH, Wan B, Zhao L. Cellular target recognition of perfluoroalkyl acids: In vitro evaluation of inhibitory effects on lysine decarboxylase. Sci Total Environ. 2014 Aug 2;496C:381-388. doi: 10.1016/j.scitotenv.2014.07.034. [Epub ahead of print] PubMed PMID: 25093300.

9: Denys S, Fraize-Frontier S, Moussa O, Bizec BL, Veyrand B, Volatier JL. Is the fresh water fish consumption a significant determinant of the internal exposure to perfluoroalkylated substances (PFAS)? Toxicol Lett. 2014 Aug 1. pii: S0378-4274(14)01203-X. doi: 10.1016/j.toxlet.2014.07.028. [Epub ahead of print] PubMed PMID: 25091270.

10: Petro EM, D'Hollander W, Covaci A, Bervoets L, Fransen E, De Neubourg D, De Pauw I, Leroy JL, Jorssen EP, Bols PE. Perfluoroalkyl acid contamination of follicular fluid and its consequence for in vitro oocyte developmental competence. Sci Total Environ. 2014 Aug 1;496C:282-288. doi: 10.1016/j.scitotenv.2014.07.028. [Epub ahead of print] PubMed PMID: 25089690.

11: Midgett K, Peden-Adams MM, Gilkeson GS, Kamen DL. In vitro evaluation of the effects of perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) on IL-2 production in human T-cells. J Appl Toxicol. 2014 Jul 23. doi:

10.1002/jat.3037. [Epub ahead of print] PubMed PMID: 25056757.

12: Braune BM, Gaston AJ, Letcher RJ, Grant Gilchrist H, Mallory ML, Provencher JF. A geographical comparison of chlorinated, brominated and fluorinated compounds in seabirds breeding in the eastern Canadian Arctic. Environ Res. 2014 Jul 17;134C:46-56. doi: 10.1016/j.envres.2014.06.019. [Epub ahead of print] PubMed PMID: 25046812.

13: Eom J, Choi J, Kim J, Kim Y. A survey of exposure level and lifestyle factors for perfluorooctanoate and perfluorooctane sulfonate in human plasma from selected residents in Korea. Int J Environ Res Public Health. 2014 Jul 16;11(7):7231-41. doi: 10.3390/ijerph110707231. PubMed PMID: 25032739; PubMed Central PMCID: PMC4113872.

14: Kato K, Wong LY, Chen A, Dunbar C, Webster GM, Lanphear BP, Calafat AM. Changes in Serum Concentrations of Maternal Poly- and Perfluoroalkyl Substances over the Course of Pregnancy and Predictors of Exposure in a Multiethnic Cohort of Cincinnati, Ohio Pregnant Women during 2003-2006. Environ Sci Technol. 2014 Jul 29. [Epub ahead of print] PubMed PMID: 25026485.

15: Falk S, Failing K, Georgii S, Brunn H, Stahl T. Tissue specific uptake and elimination of perfluoroalkyl acids (PFAAs) in adult rainbow trout (Oncorhynchus mykiss) after dietary exposure. Chemosphere. 2014 Jul 11. pii: S0045-6535(14)00808-X. doi: 10.1016/j.chemosphere.2014.06.061. [Epub ahead of print] PubMed PMID: 25022474.

16: Rigden M, Pelletier G, Poon R, Zhu J, Auray-Blais C, Gagnon R, Kubwabo C, Kosarac I, Lalonde K, Cakmak S, Xiao B, Leingartner K, Ku KL, Bose R, Jiao J. Assessment of Urinary Metabolite Excretion After Rat Acute Exposure to Perfluorooctanoic Acid and Other Peroxisomal Proliferators. Arch Environ Contam Toxicol. 2014 Jul 12. [Epub ahead of print] PubMed PMID: 25015730.

17: de Cock M, de Boer MR, Lamoree M, Legler J, van de Bor M. First year growth in relation to prenatal exposure to endocrine disruptors - a Dutch prospective cohort study. Int J Environ Res Public Health. 2014 Jul 10;11(7):7001-21. doi: 10.3390/ijerph110707001. PubMed PMID: 25014249; PubMed Central PMCID:PMC4113857.

18: Toms LM, Thompson J, Rotander A, Hobson P, Calafat AM, Kato K, Ye X, Broomhall S, Harden F, Mueller JF. Decline in perfluorooctane sulfonate and perfluorooctanoate serum concentrations in an Australian population from 2002 to 2011. Environ Int. 2014 Oct;71:74-80. doi: 10.1016/j.envint.2014.05.019. Epub 2014 Jun 27. PubMed PMID: 24980755.

19: Gorrochategui E, Casas J, Pérez-Albaladejo E, Jáuregui O, Porte C, Lacorte S. Characterization of complex lipid mixtures in contaminant exposed JEG-3 cells using liquid chromatography and high-resolution mass spectrometry. Environ Sci Pollut Res Int. 2014 Jun 28. [Epub ahead of print] PubMed PMID: 24969426.

20: Lam J, Koustas E, Sutton P, Johnson PI, Atchley DS, Sen S, Robinson KA, Axelrad DA, Woodruff TJ. The Navigation Guide-Evidence-Based Medicine Meets Environmental Health: Integration of Animal and Human Evidence for PFOA Effects on Fetal Growth. Environ Health Perspect. 2014 Jun 25. [Epub ahead of print] PubMed PMID: 24968389.

21: Johnson PI, Sutton P, Atchley DS, Koustas E, Lam J, Sen S, Robinson KA, Axelrad DA, Woodruff TJ. The Navigation Guide-Evidence-Based Medicine Meets Environmental Health: Systematic Review of Human Evidence for PFOA Effects on Fetal Growth. Environ Health Perspect. 2014 Jun 25. [Epub ahead of print] Review. PubMed PMID: 24968388.

22: Zhang W, Wang F, Xu P, Miao C, Zeng X, Cui X, Lu C, Xie H, Yin H, Chen F, Ma J, Gao S, Fu Z. Perfluorooctanoic acid stimulates breast cancer cells invasion and up-regulates matrix metalloproteinase-2/-9 expression mediated by activating NF-κB. Toxicol Lett. 2014 Aug 17;229(1):118-25. doi: 10.1016/j.toxlet.2014.06.004. Epub 2014 Jun 21. PubMed PMID: 24960061.

23: Scheringer M, Trier X, Cousins IT, de Voogt P, Fletcher T, Wang Z, Webster TF. Helsingør Statement on poly- and perfluorinated alkyl substances (PFASs). Chemosphere. 2014 Nov;114:337-9. doi: 10.1016/j.chemosphere.2014.05.044. Epub 2014 Jun 14. PubMed PMID: 24938172.

24: Blaine AC, Rich CD, Sedlacko EM, Hundal LS, Kumar K, Lau C, Mills MA, Harris KM, Higgins CP. Perfluoroalkyl Acid Distribution in Various Plant Compartments of Edible Crops Grown in Biosolids-Amended soils. Environ Sci Technol. 2014 Jul 15;48(14):7858-65. doi: 10.1021/es500016s. Epub 2014 Jun 20. PubMed PMID: 24918303.

25: Humblet O, Diaz-Ramirez LG, Balmes JR, Pinney SM, Hiatt RA. Perfluoroalkyl Chemicals and Asthma among Children 12-19 Years of Age: NHANES (1999-2008). Environ Health Perspect. 2014 Jun 6. [Epub ahead of print] PubMed PMID:24905661.

26: Leter G, Consales C, Eleuteri P, Uccelli R, Specht IO, Toft G, Moccia T, Budillon A, Jönsson BA, Lindh CH, Giwercman A, Pedersen HS, Ludwicki JK, Zviezdai V, Heederik D, Bonde JP, Spanò M. Exposure to perfluoroalkyl substances and sperm DNA global methylation in arctic and European populations. Environ Mol Mutagen. 2014 Aug;55(7):591-600. doi: 10.1002/em.21874. Epub 2014 Jun 3. PubMed PMID: 24889506.

27: Zhang T, Qin X. Assessment of fetal exposure and maternal elimination of perfluoroalkyl substances. Environ Sci Process Impacts. 2014 Jul 23;16(8):1878-81. doi: 10.1039/c4em00129j. PubMed PMID: 24882725.

28: Taylor PH, Yamada T, Striebich RC, Graham JL, Giraud RJ. Investigation of waste incineration of fluorotelomer-based polymers as a potential source of PFOA in the environment. Chemosphere. 2014 Sep;110:17-22. doi: 10.1016/j.chemosphere.2014.02.037. Epub 2014 Apr 5. PubMed PMID: 24880594.

29: Fu Y, Wang T, Fu Q, Wang P, Lu Y. Associations between serum concentrations of perfluoroalkyl acids and serum lipid levels in a Chinese population. Ecotoxicol Environ Saf. 2014 Aug;106:246-52. doi: 10.1016/j.ecoenv.2014.04.039. Epub 2014 May 23. PubMed PMID: 24863755.

30: Raleigh KK, Alexander BH, Olsen GW, Ramachandran G, Morey SZ, Church TR, Logan PW, Scott LL, Allen EM. Mortality and cancer incidence in ammonium perfluorooctanoate production workers. Occup Environ Med. 2014 Jul;71(7):500-6. doi: 10.1136/oemed-2014-102109. Epub 2014 May 15. PubMed PMID: 24832944; PubMed Central PMCID: PMC4078701.

31: Alves A, Kucharska A, Erratico C, Xu F, Den Hond E, Koppen G, Vanermen G, Covaci A, Voorspoels S. Human biomonitoring of emerging pollutants through non-invasive matrices: state of the art and future potential. Anal Bioanal Chem. 2014 Jul;406(17):4063-88. doi: 10.1007/s00216-014-7748-1. Epub 2014 May 15. PubMed PMID: 24828974.

32: Hulin M, Bemrah N, Nougadère A, Volatier JL, Sirot V, Leblanc JC. Assessment of infant exposure to food chemicals: the French Total Diet Study design. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 2014;31(7):1226-39. doi: 10.1080/19440049.2014.921937. Epub 2014 Jun 5. PubMed PMID: 24827474.

33: Berg V, Nøst TH, Huber S, Rylander C, Hansen S, Veyhe AS, Fuskevåg OM, Odland JØ, Sandanger TM. Maternal serum concentrations of per- and polyfluoroalkyl substances and their predictors in years with reduced production and use. Environ Int. 2014 Aug;69:58-66. doi: 10.1016/j.envint.2014.04.010. Epub 2014 May 7. PubMed PMID: 24815340.

34: Darrow LA, Howards PP, Winquist A, Steenland K. PFOA and PFOS serum levels and miscarriage risk. Epidemiology. 2014 Jul;25(4):505-12. doi: 10.1097/EDE.0000000000000103. PubMed PMID: 24807698.

35: Bonefeld-Jørgensen EC, Ghisari M, Wielsøe M, Bjerregaard-Olesen C, Kjeldsen LS, Long M. Biomonitoring and hormone-disrupting effect biomarkers of persistent organic pollutants in vitro and ex vivo. Basic Clin Pharmacol Toxicol. 2014 Jul;115(1):118-28. doi: 10.1111/bcpt.12263. Epub 2014 May 29. PubMed PMID: 24797035.

36: Washington JW, Naile JE, Jenkins TM, Lynch DG. Characterizing fluorotelomer and polyfluoroalkyl substances in new and aged fluorotelomer-based polymers for degradation studies with GC/MS and LC/MS/MS. Environ Sci Technol. 2014 May 20;48(10):5762-9. doi: 10.1021/es500373b. Epub 2014 May 1. PubMed PMID:24749955.

37: Zhang Y, Jiang W, Fang S, Zhu L, Deng J. Perfluoroalkyl acids and the isomers of perfluorooctanesulfonate and perfluorooctanoate in the sera of 50 new couples in Tianjin, China. Environ Int. 2014 Jul;68:185-91. doi: 10.1016/j.envint.2014.03.022. Epub 2014 Apr 16. PubMed PMID: 24747327.

38: Barry V, Darrow LA, Klein M, Winquist A, Steenland K. Early life perfluorooctanoic acid (PFOA) exposure and overweight and obesity risk in adulthood in a community with elevated exposure. Environ Res. 2014 Jul;132:62-9. doi: 10.1016/j.envres.2014.03.025. Epub 2014 Apr 16. PubMed PMID: 24742729.

39: Strøm M, Hansen S, Olsen SF, Haug LS, Rantakokko P, Kiviranta H, Halldorsson TI. Persistent organic pollutants measured in maternal serum and offspring neurodevelopmental outcomes--a prospective study with long-term follow-up. Environ Int. 2014 Jul;68:41-8. doi: 10.1016/j.envint.2014.03.002. Epub 2014 Apr 2. PubMed PMID: 24704638.

40: Barbarossa A, Gazzotti T, Zironi E, Serraino A, Pagliuca G. Short communication: Monitoring the presence of perfluoroalkyl substances in Italian cow milk. J Dairy Sci. 2014 Jun;97(6):3339-43. doi: 10.3168/jds.2014-8005. Epub 2014 Apr 3. PubMed PMID: 24704228.

41: Gorrochategui E, Pérez-Albaladejo E, Casas J, Lacorte S, Porte C. Perfluorinated chemicals: differential toxicity, inhibition of aromatase activity and alteration of cellular lipids in human placental cells. Toxicol Appl Pharmacol. 2014 Jun 1;277(2):124-30. doi: 10.1016/j.taap.2014.03.012. Epub 2014 Mar 26. PubMed PMID: 24680846.

42: Nøst TH, Vestergren R, Berg V, Nieboer E, Odland JØ, Sandanger TM. Repeated measurements of per- and polyfluoroalkyl substances (PFASs) from 1979 to 2007 in males from Northern Norway: assessing time trends, compound correlations and relations to age/birth cohort. Environ Int. 2014 Jun;67:43-53. doi: 10.1016/j.envint.2014.02.011. Epub 2014 Mar 20. PubMed PMID: 24657493.

43: Honda M, Muta A, Akasaka T, Inoue Y, Shimasaki Y, Kannan K, Okino N, Oshima Y. Identification of perfluorooctane sulfonate binding protein in the plasma of tiger pufferfish Takifugu rubripes. Ecotoxicol Environ Saf. 2014 Jun;104:409-13.

doi: 10.1016/j.ecoenv.2013.11.010. Epub 2014 Mar 11. PubMed PMID: 24635910.

44: Lin LY, Wen LL, Su TC, Chen PC, Lin CY. Negative association between serum perfluorooctane sulfate concentration and bone mineral density in US premenopausal women: NHANES, 2005-2008. J Clin Endocrinol Metab. 2014 Jun;99(6):2173-80. doi: 10.1210/jc.2013-3409. Epub 2014 Feb 28. PubMed PMID: 24606077.

45: Karakas-Celik S, Aras N. An in-vitro investigation of the effect of perfluorooctane sulphonate on cell lines of embryonic origin. Mol Biol Rep. 2014 Jun;41(6):3755-9. doi: 10.1007/s11033-014-3240-4. Epub 2014 Feb 18. PubMed PMID: 24535269.

46: Lee YJ, Choi SY, Yang JH. NMDA receptor-mediated ERK 1/2 pathway is involved in PFHxS-induced apoptosis of PC12 cells. Sci Total Environ. 2014 Sep 1;491-492:227-34. doi: 10.1016/j.scitotenv.2014.01.114. Epub 2014 Feb 15. PubMed PMID: 24534200.

47: Yamada A, Bemrah N, Veyrand B, Pollono C, Merlo M, Desvignes V, Sirot V, Marchand P, Berrebi A, Cariou R, Antignac JP, Le Bizec B, Leblanc JC. Dietary exposure to perfluoroalkyl acids of specific French adult sub-populations: high seafood consumers, high freshwater fish consumers and pregnant women. Sci Total Environ. 2014 Sep 1;491-492:170-5. doi: 10.1016/j.scitotenv.2014.01.089. Epub 2014 Feb 14. PubMed PMID: 24530183.

48: Taxvig C, Rosenmai AK, Vinggaard AM. Polyfluorinated alkyl phosphate ester surfactants - current knowledge and knowledge gaps. Basic Clin Pharmacol Toxicol. 2014 Jul;115(1):41-4. doi: 10.1111/bcpt.12208. Epub 2014 Mar 6. PubMed PMID: 24506080.

49: Vorkamp K, Nielsen F, Kyhl HB, Husby S, Nielsen LB, Barington T, Andersson AM, Jensen TK. Polybrominated diphenyl ethers and perfluoroalkyl substances in serum of pregnant women: levels, correlations, and potential health implications. Arch Environ Contam Toxicol. 2014 Jul;67(1):9-20. doi: 10.1007/s00244-013-9988-z. Epub 2014 Jan 17. PubMed PMID: 24435476.

50: Wirth JR, Peden-Adams MM, White ND, Bossart GD, Fair PA. In vitro PFOS exposure on immune endpoints in bottlenose dolphins (Tursiops truncatus) and mice. J Appl Toxicol. 2014 Jun;34(6):658-66. doi: 10.1002/jat.2891. Epub 2013 May 30. PubMed PMID: 23722986.

Flame retardants

1: Butt CM, Congleton J, Hoffman K, Fang M, Stapleton HM. Metabolites of Organophosphate Flame Retardants and 2-Ethylhexyl Tetrabromobenzoate in Urine from Paired Mothers and Toddlers. Environ Sci Technol. 2014 Aug 13. [Epub ahead of print] PubMed PMID: 25090580.

2: Ali N, Mehdi T, Malik RN, Eqani SA, Kamal A, Dirtu AC, Neels H, Covaci A. Levels and profile of several classes of organic contaminants in matched indoor dust and serum samples from occupational settings of Pakistan. Environ Pollut. 2014 Oct;193:269-76. doi: 10.1016/j.envpol.2014.07.009. Epub 2014 Jul 26. PubMed PMID: 25069086.

3: Wang J, Bever CR, Majkova Z, Dechant JE, Yang J, Gee SJ, Xu T, Hammock BD. Heterologous Antigen Selection of Camelid Heavy Chain Single Domain Antibodies against Tetrabromobisphenol A. Anal Chem. 2014 Aug 7. [Epub ahead of print]

PubMed PMID: 25068372.

4: Pillai HK, Fang M, Beglov D, Kozakov D, Vajda S, Stapleton HM, Webster TF, Schlezinger JJ. Ligand Binding and Activation of PPARγ by Firemaster® 550: Effects on Adipogenesis and Osteogenesis in Vitro.. Environ Health Perspect. 2014 Jul 25. [Epub ahead of print] PubMed PMID: 25062436.

5: Batterman S, Chernyak S. Performance and storage integrity of dried blood spots for PCB, BFR and pesticide measurements. Sci Total Environ. 2014 Oct 1;494-495:252-60. doi: 10.1016/j.scitotenv.2014.06.142. Epub 2014 Jul 21. PubMed PMID: 25058892.

6: Grasselli E, Cortese K, Fabbri R, Smerilli A, Vergani L, Voci A, Gallo G, Canesi L. Thyromimetic actions of tetrabromobisphenol A (TBBPA) in steatotic FaO rat hepatoma cells. Chemosphere. 2014 Oct;112:511-8. doi: 10.1016/j.chemosphere.2014.03.114. Epub 2014 Jun 9. PubMed PMID: 25048947.

7: Mariani A, Fanelli R, Re Depaolini A, De Paola M. Decabrominated diphenyl ether and methylmercury impair fetal nervous system development in mice at documented human exposure levels. Dev Neurobiol. 2014 Jul 9. doi: 10.1002/dneu.22208. [Epub ahead of print] PubMed PMID: 25044829.

8: Fromme H, Lahrz T, Kraft M, Fembacher L, Mach C, Dietrich S, Burkardt R, Völkel W, Göen T. Organophosphate flame retardants and plasticizers in the air and dust in German daycare centers and human biomonitoring in visiting children (LUPE 3). Environ Int. 2014 Oct;71:158-63. doi: 10.1016/j.envint.2014.06.016. Epub 2014 Jul 15. PubMed PMID: 25033099.

9: Cao Z, Xu F, Covaci A, Wu M, Wang H, Yu G, Wang B, Deng S, Huang J, Wang X. Distribution patterns of brominated, chlorinated, and phosphorus flame retardants with particle size in indoor and outdoor dust and implications for human exposure. Environ Sci Technol. 2014 Aug 5;48(15):8839-46. doi: 10.1021/es501224b. Epub 2014 Jul 17. PubMed PMID: 25010345.

10: Bever CR, Majkova Z, Radhakrishnan R, Suni I, McCoy M, Wang Y, Dechant J, Gee S, Hammock BD. Development and Utilization of Camelid VHH Antibodies from Alpaca for 2,2',4,4'-Tetrabrominated Diphenyl Ether Detection. Anal Chem. 2014 Aug 5;86(15):7875-82. doi: 10.1021/ac501807j. Epub 2014 Jul 9. PubMed PMID: 25005746.

11: Miller-Rhodes P, Popescu M, Goeke C, Tirabassi T, Johnson L, Markowski VP. Prenatal exposure to the brominated flame retardant hexabromocyclododecane (HBCD) impairs measures of sustained attention and increases age-related morbidity in the Long-Evans rat. Neurotoxicol Teratol. 2014 Jul 1;45C:34-43. doi: 10.1016/j.ntt.2014.06.009. [Epub ahead of print] PubMed PMID: 24995466.

12: Luo P, Bao LJ, Wu FC, Li SM, Zeng EY. Health risk characterization for resident inhalation exposure to particle-bound halogenated flame retardants in a typical e-waste recycling zone. Environ Sci Technol. 2014 Aug 5;48(15):8815-22. doi: 10.1021/es501973d. Epub 2014 Jul 14. PubMed PMID: 24992563.

13: Zhou SN, Buchar A, Siddique S, Takser L, Abdelouahab N, Zhu J. Measurements of selected brominated flame retardants in nursing women: implications for human exposure. Environ Sci Technol. 2014 Aug 5;48(15):8873-80. doi: 10.1021/es5016839. Epub 2014 Jul 17. PubMed PMID: 24992303; PubMed Central PMCID: PMC4124063.

14: Stasinska A, Heyworth J, Reid A, Callan A, Odland JØ, Trong Duong P, Van Ho Q, Hinwood A. Polybrominated diphenyl ether (PBDE) concentrations in plasma of

pregnant women from Western Australia. Sci Total Environ. 2014 Sep 15;493:554-61. doi: 10.1016/j.scitotenv.2014.06.001. Epub 2014 Jun 27. PubMed PMID: 24973935.

15: Powers CM, Gift J, Lehmann GM. Sparking Connections: Toward Better Linkages Between Research and Human Health Policy-An Example with Multiwalled Carbon Nanotubes. Toxicol Sci. 2014 Jun 13. pii: kfu117. [Epub ahead of print] PubMed PMID: 24928890.

16: Ryan JJ, Rawn DF. The brominated flame retardants, PBDEs and HBCD, in Canadian human milk samples collected from 1992 to 2005; concentrations and trends. Environ Int. 2014 Sep;70:1-8. doi: 10.1016/j.envint.2014.04.020. Epub 2014 May 27. PubMed PMID: 24879366.

17: Chen A, Yolton K, Rauch SA, Webster GM, Hornung R, Sjödin A, Dietrich KN, Lanphear BP. Prenatal Polybrominated Diphenyl Ether Exposures and Neurodevelopment in U.S. Children through 5 Years of Age: The HOME Study. Environ Health Perspect. 2014 Aug;122(8):856-62. doi: 10.1289/ehp.1307562. Epub 2014 May 21. PubMed PMID: 24870060; PubMed Central PMCID: PMC4123029.

18: Reverte I, Pujol A, Domingo JL, Colomina MT. Thyroid hormones and fear learning but not anxiety are affected in adult apoE transgenic mice exposed postnatally to decabromodiphenyl ether (BDE-209). Physiol Behav. 2014 Jun 22;133:81-91. doi: 10.1016/j.physbeh.2014.05.013. Epub 2014 May 21. PubMed PMID: 24857698.

19: Cequier E, Ionas AC, Covaci A, Marcé RM, Becher G, Thomsen C. Occurrence of a broad range of legacy and emerging flame retardants in indoor environments in Norway. Environ Sci Technol. 2014 Jun 17;48(12):6827-35. doi: 10.1021/es500516u. Epub 2014 May 23. PubMed PMID: 24846325.

20: Alves A, Kucharska A, Erratico C, Xu F, Den Hond E, Koppen G, Vanermen G, Covaci A, Voorspoels S. Human biomonitoring of emerging pollutants through non-invasive matrices: state of the art and future potential. Anal Bioanal Chem. 2014 Jul;406(17):4063-88. doi: 10.1007/s00216-014-7748-1. Epub 2014 May 15. PubMed PMID: 24828974.

21: Hulin M, Bemrah N, Nougadère A, Volatier JL, Sirot V, Leblanc JC. Assessment of infant exposure to food chemicals: the French Total Diet Study design. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 2014;31(7):1226-39. doi: 10.1080/19440049.2014.921937. Epub 2014 Jun 5. PubMed PMID: 24827474.

22: Belcher SM, Cookman CJ, Patisaul HB, Stapleton HM. In vitro assessment of human nuclear hormone receptor activity and cytotoxicity of the flame retardant mixture FM 550 and its triarylphosphate and brominated components. Toxicol Lett. 2014 Jul 15;228(2):93-102. doi: 10.1016/j.toxlet.2014.04.017. Epub 2014 Apr 28. PubMed PMID: 24786373.

23: Frawley R, DeVito M, Walker NJ, Birnbaum L, White K Jr, Smith M, Maynor T, Recio L, Germolec D. Relative potency for altered humoral immunity induced by polybrominated and polychlorinated dioxins/furans in female B6C3F1/N mice. Toxicol Sci. 2014 Jun;139(2):488-500. doi: 10.1093/toxsci/kfu041. Epub 2014 Apr 8. PubMed PMID: 24713691; PubMed Central PMCID: PMC4031622.

24: Truong L, Mandrell D, Mandrell R, Simonich M, Tanguay RL. A rapid throughput approach identifies cognitive deficits in adult zebrafish from developmental exposure to polybrominated flame retardants. Neurotoxicology. 2014 Jul;43:134-42. doi: 10.1016/j.neuro.2014.03.005. Epub 2014 Mar 24. PubMed PMID: 24674958.

25: Berger RG, Lefèvre PL, Ernest SR, Wade MG, Ma YQ, Rawn DF, Gaertner DW, Robaire B, Hales BF. Exposure to an environmentally relevant mixture of brominated flame retardants affects fetal development in Sprague-Dawley rats. Toxicology. 2014 Jun 5;320:56-66. doi: 10.1016/j.tox.2014.03.005. Epub 2014 Mar 23. PubMed PMID: 24670387.

26: Mathiesen L, Mørck TA, Zuri G, Andersen MH, Pehrson C, Frederiksen M, Mose T, Rytting E, Poulsen MS, Nielsen JK, Knudsen LE. Modelling of human transplacental transport as performed in copenhagen, denmark. Basic Clin Pharmacol Toxicol. 2014 Jul;115(1):93-100. doi: 10.1111/bcpt.12228. Epub 2014 Apr 18. PubMed PMID: 24646015.

27: Gassmann K, Schreiber T, Dingemans MM, Krause G, Roderigo C, Giersiefer S, Schuwald J, Moors M, Unfried K, Bergman A, Westerink RH, Rose CR, Fritsche E. BDE-47 and 6-OH-BDE-47 modulate calcium homeostasis in primary fetal human neural progenitor cells via ryanodine receptor-independent mechanisms. Arch Toxicol. 2014 Aug;88(8):1537-48. doi: 10.1007/s00204-014-1217-7. Epub 2014 Mar 6. PubMed PMID: 24599297.

28: Morris PJ, Medina-Cleghorn D, Heslin A, King SM, Orr J, Mulvihill MM, Krauss RM, Nomura DK. Organophosphorus flame retardants inhibit specific liver carboxylesterases and cause serum hypertriglyceridemia. ACS Chem Biol. 2014 May 16;9(5):1097-103. doi: 10.1021/cb500014r. Epub 2014 Mar 10. PubMed PMID: 24597639; PubMed Central PMCID: PMC4027947.

29: Kim YR, Harden FA, Toms LM, Norman RE. Health consequences of exposure to brominated flame retardants: a systematic review. Chemosphere. 2014 Jul;106:1-19. doi: 10.1016/j.chemosphere.2013.12.064. Epub 2014 Feb 11. Review. PubMed PMID: 24529398.

30: Vorkamp K, Nielsen F, Kyhl HB, Husby S, Nielsen LB, Barington T, Andersson AM, Jensen TK. Polybrominated diphenyl ethers and perfluoroalkyl substances in serum of pregnant women: levels, correlations, and potential health implications. Arch Environ Contam Toxicol. 2014 Jul;67(1):9-20. doi: 10.1007/s00244-013-9988-z. Epub 2014 Jan 17. PubMed PMID: 24435476.

31: Christiansen HE, Mehinto AC, Yu F, Perry RW, Denslow ND, Maule AG, Mesa MG. Correlation of gene expression and contaminant concentrations in wild largescale suckers: a field-based study. Sci Total Environ. 2014 Jun 15;484:379-89. doi: 10.1016/j.scitotenv.2013.08.034. Epub 2013 Sep 17. PubMed PMID: 24050789.

Tributyltin / Triclosan / Triclocarban

1: Moos RK, Angerer J, Wittsiepe J, Wilhelm M, Brüning T, Koch HM. Rapid determination of nine parabens and seven other environmental phenols in urine samples of German children and adults. Int J Hyg Environ Health. 2014 Jun 20. pii: S1438-4639(14)00047-9. doi: 10.1016/j.ijheh.2014.06.003. [Epub ahead of print] PubMed PMID: 25008406.

2: Pycke BF, Geer LA, Dalloul M, Abulafia O, Jenck AM, Halden RU. Human fetal exposure to triclosan and triclocarban in an urban population from brooklyn, new york. Environ Sci Technol. 2014 Aug 5;48(15):8831-8. doi: 10.1021/es501100w. Epub 2014 Jul 15. PubMed PMID: 24971846; PubMed Central PMCID: PMC4123932.

3: Osachoff HL, Mohammadali M, Skirrow RC, Hall ER, Brown LL, van Aggelen GC, Kennedy CJ, Helbing CC. Evaluating the treatment of a synthetic wastewater containing a pharmaceutical and personal care product chemical cocktail: Compound removal efficiency and effects on juvenile rainbow trout. Water Res.

2014 Oct 1;62:271-80. doi: 10.1016/j.watres.2014.05.057. Epub 2014 Jun 11. PubMed PMID: 24963889.

4: Donnachie RL, Johnson AC, Moeckel C, Pereira MG, Sumpter JP. Using risk-ranking of metals to identify which poses the greatest threat to freshwater organisms in the UK. Environ Pollut. 2014 Jul 29;194C:17-23. doi: 10.1016/j.envpol.2014.07.008. [Epub ahead of print] PubMed PMID: 25084241.

5: Philippat C, Botton J, Calafat AM, Ye X, Charles MA, Slama R; EDEN Study Group. Prenatal exposure to phenols and growth in boys. Epidemiology. 2014 Sep;25(5):625-35. doi: 10.1097/EDE.0000000000000132. PubMed PMID: 25061923.

6: Forbes S, Dobson CB, Humphreys GJ, McBain AJ. Transient and Sustained Bacterial Adaptation Following Repeated Sub-lethal Exposure to Microbicides and a Novel Human Antimicrobial Peptide. Antimicrob Agents Chemother. 2014 Jul 21. pii: AAC.03364-14. [Epub ahead of print] PubMed PMID: 25049246.

7: Wu Y, Beland FA, Chen S, Fang JL. Extracellular signal-regulated kinases 1/2 and Akt contribute to triclosan-stimulated proliferation of JB6 Cl 41-5a cells. Arch Toxicol. 2014 Jul 18. [Epub ahead of print] PubMed PMID: 25033989.

8: Liu L, Xia T, Zhang X, Barr DB, Alamdar A, Zhang J, Tian M, Huang Q, Shen H. Biomonitoring of infant exposure to phenolic endocrine disruptors using urine expressed from disposable gel diapers. Anal Bioanal Chem. 2014 Aug;406(20):5049-54. doi: 10.1007/s00216-014-7908-3. Epub 2014 Jun 13. PubMed PMID: 24924209.

9: Witorsch RJ. Critical analysis of endocrine disruptive activity of triclosan and its relevance to human exposure through the use of personal care products. Crit Rev Toxicol. 2014 Jul;44(6):535-55. doi: 10.3109/10408444.2014.910754. Epub 2014 Jun 4. PubMed PMID: 24897554.

10: Chen X, Xu B, Han X, Mao Z, Chen M, Du G, Talbot P, Wang X, Xia Y. The effects of triclosan on pluripotency factors and development of mouse embryonic stem cells and zebrafish. Arch Toxicol. 2014 May 31. [Epub ahead of print] PubMed PMID: 24879426.

11: Pollock T, Tang B, deCatanzaro D. Triclosan exacerbates the presence of 14C-bisphenol A in tissues of female and male mice. Toxicol Appl Pharmacol. 2014 Jul 15;278(2):116-23. doi: 10.1016/j.taap.2014.04.017. Epub 2014 Apr 29. PubMed PMID: 24784443.

12: Lee HR, Hwang KA, Nam KH, Kim HC, Choi KC. Progression of breast cancer cells was enhanced by endocrine-disrupting chemicals, triclosan and octylphenol, via an estrogen receptor-dependent signaling pathway in cellular and mouse xenograft models. Chem Res Toxicol. 2014 May 19;27(5):834-42. doi: 10.1021/tx5000156. Epub 2014 Apr 8. PubMed PMID: 24684733.

13: Engel LS, Buckley JP, Yang G, Liao LM, Satagopan J, Calafat AM, Matthews CE, Cai Q, Ji BT, Cai H, Engel SM, Wolff MS, Rothman N, Zheng W, Xiang YB, Shu XO, Gao YT, Chow WH. Predictors and variability of repeat measurements of urinary phenols and parabens in a cohort of shanghai women and men. Environ Health Perspect. 2014 Jul;122(7):733-40. doi: 10.1289/ehp.1306830. Epub 2014 Mar 20. PubMed PMID: 24659570; PubMed Central PMCID: PMC4080538.

14: Liao C, Kannan K. A survey of alkylphenols, bisphenols, and triclosan in personal care products from China and the United States. Arch Environ Contam Toxicol. 2014 Jul;67(1):50-9. doi: 10.1007/s00244-014-0016-8. Epub 2014 Mar 18.

PubMed PMID: 24639116.

15: Kastbjerg VG, Hein-Kristensen L, Gram L. Triclosan-Induced Aminoglycoside-Tolerant Listeria monocytogenes Isolates Can Appear as Small-Colony Variants. Antimicrob Agents Chemother. 2014 Jun;58(6):3124-32. doi: 10.1128/AAC.02266-13. Epub 2014 Mar 17. PubMed PMID: 24637686; PubMed Central PMCID: PMC4068453.

16: Gorrochategui E, Casas J, Pérez-Albaladejo E, Jáuregui O, Porte C, Lacorte S. Characterization of complex lipid mixtures in contaminant exposed JEG-3 cells using liquid chromatography and high-resolution mass spectrometry. Environ Sci Pollut Res Int. 2014 Jun 28. [Epub ahead of print] PubMed PMID: 24969426.

17: Rantakokko P, Main KM, Wohlfart-Veje C, Kiviranta H, Airaksinen R, Vartiainen T, Skakkebæk NE, Toppari J, Virtanen HE. Association of placenta organotin concentrations with growth and ponderal index in 110 newborn boys from Finland during the first 18 months of life: a cohort study. Environ Health. 2014 Jun 5;13(1):45. doi: 10.1186/1476-069X-13-45. PubMed PMID: 24899383; PubMed Central PMCID: PMC4061538.

18: Pereira-Fernandes A, Vanparys C, Vergauwen L, Knapen D, Jorens PG, Blust R. Toxicogenomics in the 3T3-L1 Cell Line, a New Approach for Screening of Obesogenic Compounds. Toxicol Sci. 2014 Aug 1;140(2):352-63. doi: 10.1093/toxsci/kfu092. Epub 2014 May 20. PubMed PMID: 24848799.

19: Belcher SM, Cookman CJ, Patisaul HB, Stapleton HM. In vitro assessment of human nuclear hormone receptor activity and cytotoxicity of the flame retardant mixture FM 550 and its triarylphosphate and brominated components. Toxicol Lett. 2014 Jul 15;228(2):93-102. doi: 10.1016/j.toxlet.2014.04.017. Epub 2014 Apr 28. PubMed PMID: 24786373.

20: Celada LJ, Whalen MM. Effects of butyltins on mitogen-activated-protein kinase kinase kinase and Ras activity in human natural killer cells. J Appl Toxicol. 2014 Sep;34(9):1002-11. doi: 10.1002/jat.2921. Epub 2013 Sep 5. PubMed PMID: 24038145; PubMed Central PMCID: PMC3868639.

Endocrine disrupters

No publications that are not already included in the above list

In vitro studier ved DTU Fødevareinstituttet

Søgt i Pubmed med følgende kriterier:

" Endocrine disrupt* AND in vitro*" samt "Endocrine disrupt* AND expose* AND in vitro*",

"Paraben* AND in vitro*,"perfluor* OR polyfluor* AND in vitro*" og "Phthalat* AND in vitro*".

Publiceret i perioden 2014/04/30 to 2014/12/30 present (Maj 2014 og fremefter)

Efter at have fjernet genganger fra forrige litteraturopdateringslister gav litteratursøgningen, med de angivne søgekriterier, tilsammen en liste med i alt 79 artikler (Bruttolisten). Artiklerne er blevet fordelt i 5 grupper:"Perflourinated and Polyflourinated compounds", "Plastic derivatives (BPA, Phthalates and others)", "Pesticides/Fungicides/Insecticides/Biocides", "Various EDCs, Mixtures and Other endpoints" og "Various Nano-materials/compounds".

Udvalgte publikationer

2 artikler er blevet udvalgt (fra bruttolisten) til nærmere beskrivelse baseret på, at de beskriver resultater der bidrager til ny eller yderligere viden om grupper af hormonforstyrrende stoffer.
Den første artikel omhandler et *in vitro* studie, hvor man har undersøgt bisphenol A (BPA) og BPA analogen bisphenol S (BPS), for at sammenligne deres effekt på endpoints relateret til fedme og udvikling af fedtlever.
Den anden artikel handler om de to fluorerede stoffer PFOS og PFNA og deres effekt på interleukin 2 (IL-2) produktionen i humane T-celler *in vitro*.

Is bisphenol S a safe substitute for bisphenol A in terms of metabolic function? An **in vitro** study.
Héliès-Toussaint C, Peyre L, Costanzo C, Chagnon MC, Rahmani R.

As bisphenol A (BPA) has been shown to induce adverse effects on human health, especially through the activation of endocrine pathways, it is about to be withdrawn from the European market and replaced by analogues such as bisphenol S (BPS). However, toxicological data on BPS is scarce, and so it is necessary to evaluate the possible effects of this compound on human health. We compared the effect of BPA and BPS on obesity and hepatic steatosis processes using low doses in the same range as those found in the environment. Two in vitro models were used, the adipose cell line 3T3-L1 and HepG2 cells, representative of hepatic functions. We analyzed different parameters such as lipid and glucose uptakes, lipolysis, leptin production and the modulation of genes involved in lipid metabolism and energy balance. BPA and BPS induced an increase in the lipid content in the 3T3-L1 cell line and more moderately in the hepatic cells. We also observed a decrease in lipolysis after bisphenol treatment of adipocytes, but only BPS was involved in the increase in glucose uptake and leptin production. These latter effects could be linked to the modulation of SREBP-1c, PPARγ, aP2 and ERRα and γ genes after exposure to BPA, whereas BPS seems to target the PGC1α and the ERRγ genes. The findings suggest that both BPA and BPS could be involved in obesity and steatosis processes, but through two different metabolic pathways.

In vitro evaluation of the effects of **perfluorooctanesulfonic** acid (PFOS) and **perfluorooctanoic** acid (PFOA) on IL-2 production in human T-cells.
Midgett K, Peden-Adams MM, Gilkeson GS, Kamen DL.

Perfluorinated compounds, such as perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), have been shown to alter various immune functions suggesting they are immunotoxic. This study assessed the effects of PFOS and PFOA on interleukin (IL)-2 production in the human Jurkat T-cell line and PFOS in healthy human primary T cells. Jurkat cells were stimulated with phytohemagglutinin (PHA)/phorbol myristate acetate (PMA), anti CD-3/anti CD-28, or anti CD-3, and dosed with 0, 0.05, 0.1, 0.5, 1, 5, 10, 50, 75, or 100 μg ml^{-1} PFOS or 0, 0.005, 0.01, 0.05, 0.1, 0.5, 1, 5, or 10 μg ml^{-1} PFOA. Jurkat cells stimulated with PHA/PMA or anti CD-3 exhibited decreased IL-2 production beginning at 50 μg PFOS ml^{-1} and 5 μg PFOS ml^{-1} respectively, but stimulation with anti-CD3/anti-CD28 resulted in no changes compared with the control. Addition of the PPAR-alpha antagonist GW6471 to PFOS-dosed cells stimulated with PHA/PMA resulted in decreases in IL-2 production starting at 50 μg PFOS ml^{-1} , which suggests PFOS affected T-cell IL-2 production via PPAR-alpha-independent mechanisms. Exposure to PFOA, PFOA + GW6471, or PFOS + PFOA in Jurkat cells resulted in no significant differences in IL-2 production. In vitro dosing studies using healthy primary human CD4+ T cells were consistent with the Jurkat results. These data demonstrated that PFOA did not impact IL-2 production, but PFOS suppressed IL-2 production in both a human cell line and human primary cells at dose levels within the high end of the human exposure range. A decrease in IL-2 production is characteristic of autoimmune diseases such as systemic lupus erythematosus and should be further investigated.

Bruttolisten

Perflourinated and Polyflourinated compounds

1.
Perfluoroalkyl acid contamination of follicular fluid and its consequence for **in vitro** oocyte developmental competence.
Petro EM, D'Hollander W, Covaci A, Bervoets L, Fransen E, De Neubourg D, De Pauw I, Leroy JL, Jorssen EP, Bols PE.
Sci Total Environ. 2014 Aug 1;496C:282-288. doi: 10.1016/j.scitotenv.2014.07.028. [Epub ahead of print]

2.
Proteomic analysis of mouse testis reveals perfluorooctanoic acid-induced reproductive dysfunction via direct disturbance of testicular steroidogenic machinery.
Zhang H, Lu Y, Luo B, Yan S, Guo X, Dai J.
J Proteome Res. 2014 Jul 3;13(7):3370-85. doi: 10.1021/pr500228d. Epub 2014 Jun 25.

3.
8-Hydroxy-2'-deoxyguanosine as a biomarker of oxidative DNA damage induced by **perfluorinated** compounds in TK6 cells.
Yahia D, Haruka I, Kagashi Y, Tsuda S.
Environ Toxicol. 2014 Aug 12. doi: 10.1002/tox.22034. [Epub ahead of print]
PMID: 25113910

4.
Complement activation is involved in the hepatic injury caused by high-dose exposure of mice to **perfluorooctanoic** acid.
Botelho SC, Saghafian M, Pavlova S, Hassan M, DePierre JW, Abedi-Valugerdi M.
Chemosphere. 2014 Aug 6. pii: S0045-6535(14)00855-8. doi: 10.1016/j.chemosphere.2014.06.093. [Epub ahead of print]

5.
Cellular target recognition of **perfluoroalkyl** acids: **In vitro** evaluation of inhibitory effects on lysine decarboxylase.
Wang S, Lv Q, Yang Y, Guo LH, Wan B, Zhao L.
Sci Total Environ. 2014 Aug 2;496C:381-388. doi: 10.1016/j.scitotenv.2014.07.034. [Epub ahead of print]

6.
Activation of sterol regulatory element-binding proteins in mice exposed to **perfluorooctanoic** acid for 28 days.
Yan S, Wang J, Dai J.
Arch Toxicol. 2014 Aug 6. [Epub ahead of print]
7.
In vitro evaluation of the effects of **perfluorooctanesulfonic** acid (PFOS) and **perfluorooctanoic** acid (PFOA) on IL-2 production in human T-cells.
Midgett K, Peden-Adams MM, Gilkeson GS, Kamen DL.
J Appl Toxicol. 2014 Jul 23. doi: 10.1002/jat.3037. [Epub ahead of print]

8.
Comparative hepatic **in vitro** depletion and metabolite formation of major **perfluorooctane** sulfonate precursors in arctic polar bear, beluga whale, and ringed seal.

Letcher RJ, Chu S, McKinney MA, Tomy GT, Sonne C, Dietz R.
Chemosphere. 2014 Oct;112:225-31. doi: 10.1016/j.chemosphere.2014.04.022. Epub 2014 May 14.

9. 6:2 Fluorotelomer iodide **in vitro** metabolism by rat liver microsomes: Comparison with [1,2-(14)C] 6:2 fluorotelomer alcohol.
Ruan T, Sulecki LM, Wolstenholme BW, Jiang G, Wang N, Buck RC.
Chemosphere. 2014 Oct;112:34-41. doi: 10.1016/j.chemosphere.2014.02.068. Epub 2014 Apr 21.

10. High-intensity focused ultrasound sonothrombolysis: the use of **perfluorocarbon** droplets to achieve clot lysis at reduced acoustic power.
Pajek D, Burgess A, Huang Y, Hynynen K.
Ultrasound Med Biol. 2014 Sep;40(9):2151-61. doi: 10.1016/j.ultrasmedbio.2014.03.026. Epub 2014 Jul 9.

11. Structure-dependent binding and activation of **perfluorinated** compounds on human peroxisome proliferator-activated receptor γ
Zhang L, Ren XM, Wan B, Guo LH.
Toxicol Appl Pharmacol. 2014 Jul 3. pii: S0041-008X(14)00249-X. doi: 10.1016/j.taap.2014.06.020. [Epub ahead of print]

12. Structure-activity relations in binding of **perfluoroalkyl** compounds to human thyroid hormone T3 receptor.
Ren XM, Zhang YF, Guo LH, Qin ZF, Lv QY, Zhang LY.
Arch Toxicol. 2014 May 13. [Epub ahead of print]

13. **In vitro** metabolic formation of **perfluoroalkyl** sulfonamides from copolymer surfactants of pre- and post-2002 scotchgard fabric protector products.
Chu S, Letcher RJ.
Environ Sci Technol. 2014 Jun 3;48(11):6184-91. doi: 10.1021/es500169x. Epub 2014 May 13.

Plastic derivatives" (BPA, Phthalates and others)

1. Is bisphenol S a safe substitute for bisphenol A in terms of metabolic function? An **in vitro** study.
Héliès-Toussaint C, Peyre L, Costanzo C, Chagnon MC, Rahmani R.
Toxicol Appl Pharmacol. 2014 Aug 8. pii: S0041-008X(14)00291-9. doi: 10.1016/j.taap.2014.07.025. [Epub ahead of print]

2. Histone Methyltransferase EZH2 Is Transcriptionally Induced by Estradiol as Well as Estrogenic **Endocrine Disruptors** Bisphenol-A and Diethylstilbestrol.
Bhan A, Hussain I, Ansari KI, Bobzean SA, Perrotti LI, Mandal SS.
J Mol Biol. 2014 Aug 1. pii: S0022-2836(14)00373-8. doi: 10.1016/j.jmb.2014.07.025. [Epub ahead of print]

3. Identification of mechanisms of action of bisphenol A-induced human preadipocyte differentiation by transcriptional profiling.
Boucher JG, Husain M, Rowan-Carroll A, Williams A, Yauk CL, Atlas E.
Obesity (Silver Spring). 2014 Jul 22. doi: 10.1002/oby.20848. [Epub ahead of print]

4. Estrogen and bisphenol A affect male rat enamel formation and promote ameloblast proliferation.
Jedeon K, Loiodice S, Marciano C, Vinel A, Canivenc Lavier MC, Berdal A, Babajko S.
Endocrinology. 2014 Jul 8:en20132161. [Epub ahead of print]

5. Non-monotonic dose responses in studies of **endocrine disrupting** chemicals: bisphenol a as a case study.
Vandenberg LN.

Dose Response. 2013 Oct 7;12(2):259-76. doi: 10.2203/dose-response.13-020.Vandenberg. eCollection 2014 May.

6. The Adverse Cardiac Effects of Di(2-ethylhexyl)phthalate and Bisphenol A.
Posnack NG.
Cardiovasc Toxicol. 2014 May 9. [Epub ahead of print]

7. Phthalate exposure and childhood obesity.
Kim SH, Park MJ.
Ann Pediatr Endocrinol Metab. 2014 Jun;19(2):69-75. doi: 10.6065/apem.2014.19.2.69. Epub 2014 Jun 30. Review.

8. **Endocrine disruptors** and human reproductive failure: the in vitro effect of phthalates on human luteal cells.
Romani F, Tropea A, Scarinci E, Federico A, Dello Russo C, Lisi L, Catino S, Lanzone A, Apa R.
Fertil Steril. 2014 Jul 10. pii: S0015-0282(14)00504-4. doi: 10.1016/j.fertnstert.2014.05.041. [Epub ahead of print]

9. Phthalates efficiently bind to human peroxisome proliferator activated receptor and retinoid X receptor α, β, γ subtypes: an in silico approach.
Sarath Josh MK, Pradeep S, Vijayalekshmi Amma KS, Balachandran S, Abdul Jaleel UC, Doble M, Spener F, Benjamin S.
J Appl Toxicol. 2014 Jul;34(7):754-65. doi: 10.1002/jat.2902. Epub 2013 Jul 11.

10. Benzyl butyl **phthalate** induces migration, invasion, and angiogenesis of Huh7 hepatocellular carcinoma cells through nongenomic AhR/G-protein signaling.
Tsai CF, Hsieh TH, Lee JN, Hsu CY, Wang YC, Lai FJ, Kuo KK, Wu HL, Tsai EM, Kuo PL.
BMC Cancer. 2014 Aug 1;14:556. doi: 10.1186/1471-2407-14-556.

11. Primary neuronal-astrocytic co-culture platform for neurotoxicity assessment of di-(2-ethylhexyl) **phthalate**.
Wu Y, Li K, Zuo H, Yuan Y, Sun Y, Yang X.
J Environ Sci (China). 2014 May;26(5):1145-53. doi: 10.1016/S1001-0742(13)60504-5.

12. Effect of sunlight exposure on the release of intentionally and/or non-intentionally added substances from polyethylene terephthalate (PET) bottles into water: chemical analysis and **in vitro** toxicity.
Bach C, Dauchy X, Severin I, Munoz JF, Etienne S, Chagnon MC.
Food Chem. 2014 Nov 1;162:63-71. doi: 10.1016/j.foodchem.2014.04.020. Epub 2014 Apr 13.

Pesticides/Fungicides/Insecticides/Biocides

1. Disruption of thyroid hormone functions by low dose exposure of tributyltin: An **in vitro** and in vivo approach.
Sharan S, Nikhil K, Roy P.
Gen Comp Endocrinol. 2014 Aug 4. pii: S0016-6480(14)00300-1. doi: 10.1016/j.ygcen.2014.07.027. [Epub ahead of print]

2. Tributyltin distribution and producing androgenic activity in water, sediment, and fish muscle.
Shue MF, Chen TC, Bellotindos LM, Lu MC.
J Environ Sci Health B. 2014 Jun 3;49(6):432-8. doi: 10.1080/03601234.2014.894780.

3. Disruption of the hormonal network and the enantioselectivity of bifenthrin in trophoblast: maternal-fetal health risk of chiral pesticides.

Zhao M, Zhang Y, Zhuang S, Zhang Q, Lu C, Liu W.
Environ Sci Technol. 2014 Jul 15;48(14):8109-16. doi: 10.1021/es501903b. Epub 2014 Jul 2.

4. Maternal cypermethrin exposure during the perinatal period impairs testicular development in C57BL male offspring.
Huang C, Li X.
PLoS One. 2014 May 8;9(5):e96781. doi: 10.1371/journal.pone.0096781. eCollection 2014.

5. Evaluation of potential endocrine activity of 2,4-dichlorophenoxyacetic acid using **in vitro** assays.
Coady KK, Kan HL, Schisler MR, Gollapudi BB, Neal B, Williams A, LeBaron MJ.
Toxicol **In Vitro**. 2014 Aug;28(5):1018-25. doi: 10.1016/j.tiv.2014.04.006. Epub 2014 May 6.

Various EDCs, Mixtures and Other endpoints

1. The role of P450 metabolism in the estrogenic activity of bifenthrin in fish.
DeGroot BC, Brander SM.
Aquat Toxicol. 2014 Jul 18;156C:17-20. doi: 10.1016/j.aquatox.2014.07.007. [Epub ahead of print]

2. **Endocrine disrupting** potential of fipronil and its metabolite in reporter gene assays.
Lu M, Du J, Zhou P, Chen H, Lu C, Zhang Q.
Chemosphere. 2014 Aug 8;120C:246-251. doi: 10.1016/j.chemosphere.2014.07.015. [Epub ahead of print]

3. Bioavailability and fate of sediment-associated trenbolone and estradiol in aquatic systems.
Sangster JL, Zhang Y, Hernandez R, Garcia YA, Sivils JC, Cox MB, Snow DD, Kolok AS, Bartelt-Hunt SL.
Sci Total Environ. 2014 Aug 7;496C:576-584. doi: 10.1016/j.scitotenv.2014.07.040. [Epub ahead of print]

4. Selectivity of natural, synthetic and environmental estrogens for zebrafish estrogen receptors.
Pinto C, Grimaldi M, Boulahtouf A, Pakdel F, Brion F, Aït-Aïssa S, Cavaillès V, Bourguet W, Gustafsson JA, Bondesson M, Balaguer P.
Toxicol Appl Pharmacol. 2014 Aug 7. pii: S0041-008X(14)00280-4. doi: 10.1016/j.taap.2014.07.020. [Epub ahead of print]

5. Effect of estrogenic binary mixtures in the yeast estrogen screen (YES).
Ramirez T, Buechse A, Dammann M, Melching-Kollmuß S, Woitkowiak C, van Ravenzwaay B.
Regul Toxicol Pharmacol. 2014 Jul 11;70(1):286-296. doi: 10.1016/j.yrtph.2014.07.006. [Epub ahead of print]

6. Effects of the mycotoxin patulin at the level of nuclear receptor transcriptional activity and steroidogenesis **in vitro**.
Frizzell C, Elliott CT, Connolly L.
Toxicol Lett. 2014 Sep 2;229(2):366-73. doi: 10.1016/j.toxlet.2014.06.847. Epub 2014 Jul 1.

7. An assessment of endocrine activity in Australian rivers using chemical and **in vitro** analyses.
Scott PD, Bartkow M, Blockwell SJ, Coleman HM, Khan SJ, Lim R, McDonald JA, Nice H, Nugegoda D, Pettigrove V, Tremblay LA, Warne MS, Leusch FD.
Environ Sci Pollut Res Int. 2014 Jul 2. [Epub ahead of print]

8. Assessment of multiple hormonal activities in wastewater at different stages of treatment.
Bain PA, Williams M, Kumar A.
Environ Toxicol Chem. 2014 Jun 30. doi: 10.1002/etc.2676. [Epub ahead of print]

9. Analytical methodology for the profiling and characterization of androgen receptor active compounds in human placenta.

Indiveri P, Horwood J, Abdul-Sada A, Arrebola JP, Olea N, Hill EM.
Reprod Toxicol. 2014 Aug;47:102-10. doi: 10.1016/j.reprotox.2014.06.004. Epub 2014 Jun 24.

10. Predictive endocrine testing in the 21st century using **in vitro** assays of estrogen receptor signaling responses.
Rotroff DM, Martin MT, Dix DJ, Filer DL, Houck KA, Knudsen TB, Sipes NS, Reif DM, Xia M, Huang R, Judson RS.
Environ Sci Technol. 2014 Aug 5;48(15):8706-16. doi: 10.1021/es502676e. Epub 2014 Jul 10.

11. Reprint of "Current perspectives on the androgen 5 alpha-dihydrotestosterone (DHT) and 5 alpha-reductases in teleost fishes and amphibians"
Martyniuk CJ, Bissegger S, Langlois VS.
Gen Comp Endocrinol. 2014 Jun 19. pii: S0016-6480(14)00244-5. doi: 10.1016/j.ygcen.2014.06.011. [Epub ahead of print]

12. Coactivator recruitment of AhR/ARNT1.
Endler A, Chen L, Shibasaki F.
Int J Mol Sci. 2014 Jun 19;15(6):11100-10. doi: 10.3390/ijms150611100.

13. Occurrences, toxicities, and ecological risks of benzophenone-3, a common component of organic sunscreen products: a mini-review.
Kim S, Choi K.
Environ Int. 2014 Sep;70:143-57. doi: 10.1016/j.envint.2014.05.015. Epub 2014 Jun 14. Review.

14. Effect-directed analysis for estrogenic compounds in a fluvial sediment sample using transgenic cyp19a1b-GFP zebrafish embryos.
Fetter E, Krauss M, Brion F, Kah O, Scholz S, Brack W.
Aquat Toxicol. 2014 Sep;154:221-9. doi: 10.1016/j.aquatox.2014.05.016. Epub 2014 May 19.

15. Evaluation of BDE-47 hydroxylation metabolic pathways based on a strong electron-withdrawing pentafluorobenzoyl derivatization gas chromatography/electron capture negative ionization quadrupole mass spectrometry.
Zhai C, Peng S, Yang L, Wang Q.
Environ Sci Technol. 2014 Jul 15;48(14):8117-26. doi: 10.1021/es405446y. Epub 2014 Jun 20.

16. Are **in vitro** methods for the detection of endocrine potentials in the aquatic environment predictive for in vivo effects? Outcomes of the Projects SchussenAktiv and SchussenAktivplus in the Lake Constance Area, Germany.
Henneberg A, Bender K, Blaha L, Giebner S, Kuch B, Köhler HR, Maier D, Oehlmann J, Richter D, Scheurer M, Schulte-Oehlmann U, Sieratowicz A, Ziebart S, Triebskorn R.
PLoS One. 2014 Jun 5;9(6):e98307. doi: 10.1371/journal.pone.0098307. eCollection 2014.

17. Critical analysis of **endocrine disruptive** activity of triclosan and its relevance to human exposure through the use of personal care products.
Witorsch RJ.
Crit Rev Toxicol. 2014 Jul;44(6):535-55. doi: 10.3109/10408444.2014.910754. Epub 2014 Jun 4.

18. Estrogenic activity of constituents of underarm deodorants determined by E-Screen assay.
Lange C, Kuch B, Metzger JW.
Chemosphere. 2014 Aug;108:101-6. doi: 10.1016/j.chemosphere.2014.02.082. Epub 2014 Apr 12.

19. Integrated assessment of runoff from livestock farming operations: Analytical chemistry, **in vitro** bioassays, and in vivo fish exposures.

Cavallin JE, Durhan EJ, Evans N, Jensen KM, Kahl MD, Kolpin DW, Kolodziej EP, Foreman WT, LaLone CA, Makynen EA, Seidl SM, Thomas LM, Villeneuve DL, Weberg MA, Wilson VS, Ankley GT.
Environ Toxicol Chem. 2014 Aug;33(8):1849-57. doi: 10.1002/etc.2627. Epub 2014 Jun 27.

20. Hypothesis-driven weight of evidence analysis to determine potential endocrine activity of MTBE.
de Peyster A, Mihaich E.
Regul Toxicol Pharmacol. 2014 Aug;69(3):348-70. doi: 10.1016/j.yrtph.2014.04.017. Epub 2014 May 6.

21. Early Life Triclocarban Exposure During Lactation Affects Neonate Rat Survival.
Kennedy RC, Menn FM, Healy L, Fecteau KA, Hu P, Bae J, Gee NA, Lasley BL, Zhao L, Chen J.
Reprod Sci. 2014 May 6. [Epub ahead of print]

22. Co-occurrence of estrogenic and antiestrogenic activities in wastewater: quantitative evaluation of balance by **in vitro** ERα reporter gene assay and chemical analysis.
Ihara M, Ihara MO, Kumar V, Narumiya M, Hanamoto S, Nakada N, Yamashita N, Miyagawa S, Iguchi T, Tanaka H.
Environ Sci Technol. 2014 Jun 3;48(11):6366-73. doi: 10.1021/es5014938. Epub 2014 May 13.

23. Assessment of the sensitivity of three North American fish species to disruptors of steroidogenesis using **in vitro** tissue explants.
Beitel SC, Doering JA, Patterson SE, Hecker M.
Aquat Toxicol. 2014 Jul;152:273-83. doi: 10.1016/j.aquatox.2014.04.013. Epub 2014 Apr 19.

24. Biomonitoring and hormone-disrupting effect biomarkers of persistent organic pollutants **in vitro** and ex vivo.
Bonefeld-Jørgensen EC, Ghisari M, Wielsøe M, Bjerregaard-Olesen C, Kjeldsen LS, Long M.
Basic Clin Pharmacol Toxicol. 2014 Jul;115(1):118-28. doi: 10.1111/bcpt.12263. Epub 2014 May 29.

25. Chronic exposure of killifish to a highly polluted environment desensitizes estrogen-responsive reproductive and biomarker genes.
Bugel SM, Bonventre JA, White LA, Tanguay RL, Cooper KR.
Aquat Toxicol. 2014 Jul;152:222-31. doi: 10.1016/j.aquatox.2014.04.014. Epub 2014 Apr 21.

26. **In vitro** assessment of human nuclear hormone receptor activity and cytotoxicity of the flame retardant mixture FM 550 and its triarylphosphate and brominated components.
Belcher SM, Cookman CJ, Patisaul HB, Stapleton HM.
Toxicol Lett. 2014 Jul 15;228(2):93-102. doi: 10.1016/j.toxlet.2014.04.017. Epub 2014 Apr 28.

27. Effects of tamoxifen on the sex determination gene and the activation of sex reversal in the developing gonad of mice.
Yu M, Wang J, Liu W, Qin J, Zhou Q, Wang Y, Huang H, Chen W, Ma C.
Toxicology. 2014 Jul 3;321:89-95. doi: 10.1016/j.tox.2014.04.006. Epub 2014 Apr 24.

28. Estrogenic **endocrine disruptors** present in sports supplements. A risk assessment for human health.
Plotan M, Elliott CT, Frizzell C, Connolly L.
Food Chem. 2014 Sep 15;159:157-65. doi: 10.1016/j.foodchem.2014.02.153. Epub 2014 Mar 12.

29. **In vitro** exposure of Leydig cells to an environmentally relevant mixture of organochlorines represses early steps of steroidogenesis.
Enangue Njembele AN, Bailey JL, Tremblay JJ.
Biol Reprod. 2014 Jun;90(6):118. doi: 10.1095/biolreprod.113.116368. Epub 2014 Apr 16.

30. Optimization of effects-assessment of greenside darter (Etheostoma blennioides) exposed to tertiary treated municipal wastewater based on seasonal changes of reproductive endpoints.
Tetreault GR, Bennett CJ, Servos MR, McMaster ME.
Environ Toxicol Chem. 2014 May;33(5):1077-89. doi: 10.1002/etc.2526. Epub 2014 Mar 12.

31. Mixture effects at very low doses with combinations of anti-androgenic pesticides, antioxidants, industrial pollutant and chemicals used in personal care products.
Orton F, Ermler S, Kugathas S, Rosivatz E, Scholze M, Kortenkamp A.
Toxicol Appl Pharmacol. 2014 Aug 1;278(3):201-8. doi: 10.1016/j.taap.2013.09.008. Epub 2013 Sep 18.

32. A novel approach to formulation factor of aceclofenac eye drops efficiency evaluation based on physicochemical characteristics of **in vitro** and in vivo permeation.
Dave V, Paliwal S.
Saudi Pharm J. 2014 Jul;22(3):240-5. doi: 10.1016/j.jsps.2013.03.001. Epub 2013 Mar 30.

33. Study on patients who underwent suspected diagnosis of allergy to amide-type local anesthetic agents by the leukocyte migration test.
Saito M, Abe M, Furukawa T, Yagi M, Koike Y, Wakasugi Y, Tabuchi N, Uno K.
Allergol Int. 2014 Jun;63(2):267-77. doi: 10.2332/allergolint.13-OA-0653. Epub 2014 Apr 25.

34. Evaluating food additives as antifungal agents against Monilinia fructicola **in vitro** and in hydroxypropyl methylcellulose-lipid composite edible coatings for plums.
Karaca H, Pérez-Gago MB, Taberner V, Palou L.
Int J Food Microbiol. 2014 Jun 2;179:72-9. doi: 10.1016/j.ijfoodmicro.2014.03.027. Epub 2014 Mar 31.

35. Revealing signal from noisy ^{19}F MR images by chemical shift artifact correction.
Meissner M, Reisert M, Hugger T, Hennig J, von Elverfeldt D, Leupold J.
Magn Reson Med. 2014 Jul 17. doi: 10.1002/mrm.25370. [Epub ahead of print]

36. Core body temperature control by total liquid ventilation using a virtual lung temperature sensor.
Nadeau M, Micheau P, Robert R, Avoine O, Tissier R, Germim PS, Vandamme J, Praud JP, Walti H.
IEEE Trans Biomed Eng. 2014 Jun 20. [Epub ahead of print]

37. CD326loCD103loCD11blo Dermal Dendritic Cells Are Activated by Thymic Stromal Lymphopoietin during Contact Sensitization in Mice.
Ochiai S, Roediger B, Abtin A, Shklovskaya E, Fazekas de St Groth B, Yamane H, Weninger W, Le Gros G, Ronchese F.
J Immunol. 2014 Sep 1;193(5):2504-2511. Epub 2014 Jul 23.

38. Oral sustained-release suspension based on a novel taste-masked and mucoadhesive carrier-ion-exchange fiber.
Yuan J, Liu T, Li H, Shi T, Xu J, Liu H, Wang Z, Wang Q, Xu L, Wang Y, Li S.
Int J Pharm. 2014 Sep 10;472(1-2):74-81. doi: 10.1016/j.ijpharm.2014.05.048. Epub 2014 Jun 2.

39. Toxicogenomics in the 3T3-L1 Cell Line, a New Approach for Screening of Obesogenic Compounds.
Pereira-Fernandes A, Vanparys C, Vergauwen L, Knapen D, Jorens PG, Blust R.
Toxicol Sci. 2014 Aug 1;140(2):352-63. doi: 10.1093/toxsci/kfu092. Epub 2014 May 20.

40. Compounds from multilayer plastic bags cause reproductive failures in artificial insemination.
Nerin C, Ubeda JL, Alfaro P, Dahmani Y, Aznar M, Canellas E, Ausejo R.
Sci Rep. 2014 May 9;4:4913. doi: 10.1038/srep04913.

41. **In vitro** characterization of a novel polymeric system for preparation of amorphous solid drug dispersions.
Mahmoudi ZN, Upadhye SB, Ferrizzi D, Rajabi-Siahboomi AR.
AAPS J. 2014 Jul;16(4):685-97. doi: 10.1208/s12248-014-9590-y. Epub 2014 May 2.

42. Effect of polydimethylsiloxane and ethylcellulose on **in vitro** permeation of centchroman from its transdermal patches.
Gupta V, Singh S, Srivarstava M, Ahmad H, Pachauri SD, Khandelwal K, Dwivedi P, Dwivedi AK.
Drug Deliv. 2014 Apr 30. [Epub ahead of print]

43. Fetal programming of adult Leydig cell function by androgenic effects on stem/progenitor cells.
Kilcoyne KR, Smith LB, Atanassova N, Macpherson S, McKinnell C, van den Driesche S, Jobling MS, Chambers TJ, De Gendt K, Verhoeven G, O'Hara L, Platts S, Renato de Franca L, Lara NL, Anderson RA, Sharpe RM.
Proc Natl Acad Sci U S A. 2014 May 6;111(18):E1924-32. doi: 10.1073/pnas.1320735111. Epub 2014 Apr 21.

Various Nano-materials/compounds

1. Mechanism of action of lung damage caused by a nanofilm spray product.
Larsen ST, Dallot C, Larsen SW, Rose F, Poulsen SS, Nørgaard AW, Hansen JS, Sørli JB, Nielsen GD, Foged C.
Toxicol Sci. 2014 Aug 1;140(2):436-44. doi: 10.1093/toxsci/kfu098. Epub 2014 May 25.

2. Laser-induced cavitation in nanoemulsion with gold nanospheres for blood clot disruption: **in vitro** results.
Wei CW, Xia J, Lombardo M, Perez C, Arnal B, Larson-Smith K, Pelivanov I, Matula T, Pozzo L, O'Donnell M.
Opt Lett. 2014 May 1;39(9):2599-602. doi: 10.1364/OL.39.002599.

3. Methotrexate-loaded PLGA nanobubbles for ultrasound imaging and Synergistic Targeted therapy of residual tumor during HIFU ablation.
Zhang X, Zheng Y, Wang Z, Huang S, Chen Y, Jiang W, Zhang H, Ding M, Li Q, Xiao X, Luo X, Wang Z, Qi H.
Biomaterials. 2014 Jun;35(19):5148-61. doi: 10.1016/j.biomaterials.2014.02.036. Epub 2014 Mar 28.

4. pH-responsive thiolated chitosan nanoparticles for oral low-molecular weight heparin delivery: **in vitro** and in vivo evaluation.
Fan B, Xing Y, Zheng Y, Sun C, Liang G.
Drug Deliv. 2014 May 28:1-10. [Epub ahead of print]

5. Development of polymeric nanoparticles with highly entrapped herbal hydrophilic drug using nanoprecipitation technique: an approach of quality by design.
Vuddanda PR, Mishra A, Singh SK, Singh S.
Pharm Dev Technol. 2014 May 15:1-9. [Epub ahead of print]

6. Instantaneous enteric nano-encapsulation of omeprazole: pharmaceutical and pharmacological evaluation.
Bendas ER, Abdelbary AA.
Int J Pharm. 2014 Jul 1;468(1-2):97-104. doi: 10.1016/j.ijpharm.2014.04.030. Epub 2014 Apr 16.
PMID: 24746414

In Vivo studier ved DTU - FOOD

Søgning er udført på PubMed og dækker perioden maj – sept 2014

Følgende søgeprofil er benyttet i PubMed: ((endocrine disrupt*) AND (rat OR mice OR mammal*)) OR ((endocrine disrupt*) AND (in vivo*)) OR ((endocrine disrupt*) AND (Paraben*)) OR ((endocrine disrupt*) AND (Phthalat*)) OR ((Endocrine disrupt* AND (antiandrogen)) OR ((endocrine disrupt*) AND (behaviour OR behavior*)) OR ((Endocrine disrupt*) AND (Bisphenol A or BPA) OR ((perfluor* OR polyfluor*)AND in vivo).

Efter at have fjernet gengangere fra dem vi havde med på den forrige litteraturopdateringsliste samt *in vitro*, human eller SDU relevante artikler, gav litteratursøgningen en liste med i alt 90 artikler (Bruttolisten)
Disse er efter Miljøstyrelsens ønske blevet fordelt i grupper efter stofnavne: ”Parabens, ”Plastic derivatives” (BPA, Phthalates and others), ”Pesticides/fungicides” og ” Various EDCs, Mixtures and Other endpoints”.

Udvalgte publikationer

To artikler er blevet udvalgt til nærmere beskrivelse (abstrakt og konklusion). Disse 2 artikler er valgt fordi vi mener de bidrager til ny viden om OECD test guideline studier (screeningsstudier) (Beekhuijzen et al. 2014). Den anden artikel omhandler et studie fra Michael Skinners gruppe om transgenerationelle effekter hos tredje generation efter vinclozolin eksponering og stress (Gillette et al 2014).

Ud fra bruttolisten (se længere nede i dokumentet) er udvalgt følgende 2 artikler til engelsk abstrakt.

The underestimated value of OECD 421 and 422 repro screening studies: Putting it in the right perspective.
Beekhuijzen M, de Raaf MA, Zmarowski A, van Otterdijk F, Peter B, Emmen H.
Reprod Toxicol. 2014 Sep;48:81-7. doi: 10.1016/j.reprotox.2014.04.003. Epub 2014 Apr 21.

Abstract
To assess the efficacy of reproduction/developmental screening studies (OECD 421 and 422), a retrospective evaluation of 134 studies was performed. The major findings were: (1) for up to half of the studies with developmental and reproductive toxicity, these effects would have been missed in other types of studies, which underscores that reproduction/developmental screening studies should not be waived by default based on negative 28-day and/or prenatal developmental data, (2) the required number of animals as stated in the guidelines, is appropriate for detecting developmental and reproductive toxicity, and (3) adding measurements like anogenital distance, internal sex determination and nipple retention, plus extending the postnatal period would add predictive value. Overall, the current reproduction/developmental screening studies are effective in providing unique data, especially considering the limited number of animals used. Some simple additions would enrich its value in risk assessment even further.

Sexually dimorphic effects of ancestral exposure to vinclozolin on stress reactivity in rats.
Gillette R, Miller-Crews I, Nilsson EE, Skinner MK, Gore AC, Crews D.
Endocrinology. 2014 Jul 22:en20141253. [Epub ahead of print] **Valgt**

Abstract
How an individual responds to the environment depends upon both personal life history as well as inherited genetic and epigenetic factors from ancestors. Using a 'two-hit, 3 generations apart' model, we tested how F3 descendants of rats given in utero exposures to the environmental endocrine-disrupting chemical (EDC) vinclozolin reacted to stress during adolescence in their own lives, focusing on sexually dimorphic phenotypic outcomes. In adulthood, male and female F3 vinclozolin- or vehicle-lineage rats, stressed or non-stressed, were behaviorally characterized on a battery of tests, then euthanized. Serum was used for hormone assays, and brains for qPCR and transcriptome analyses. Results showed that the effects of ancestral exposure to vinclozolin converged with stress experienced during adolescence in a sexually dimorphic manner. Debilitating effects were seen at all levels of the phenotype, including physiology, behavior, brain metabolism, gene expression, and genome-wide transcriptome modifications in specific brain nuclei. Additionally, females were significantly more vulnerable than males to transgenerational effects of vinclozolin on anxiety but not sociality tests. This fundamental transformation occurs in a manner neither predicted by the ancestral exposure or the proximate effects of stress during adolescence, an interaction we refer to as synchronicity.

Bruttolisten in vivo

Plastic derivatives (BPA, Phthalates and others)

BPA

1. Sex differences in the adult HPA axis and affective **behaviors** are altered by perinatal exposure to a low dose of bisphenol A.
Chen F, Zhou L, Bai Y, Zhou R, Chen L.
Brain Res. 2014 Jul 7;1571:12-24. doi: 10.1016/j.brainres.2014.05.010. Epub 2014 May 21.

2. Investigation of the effects of subchronic low dose oral exposure to bisphenol A (BPA) and ethinyl estradiol (EE) on estrogen receptor expression in the juvenile and adult female **rat** hypothalamus.
Rebuli ME, Cao J, Sluzas E, Delclos KB, Camacho L, Lewis SM, Vanlandingham MM, Patisaul HB.
Toxicol Sci. 2014 Jul;140(1):190-203. doi: 10.1093/toxsci/kfu074. Epub 2014 Apr 20.

3. Programming of metabolic effects in C57BL/6JxFVB **mice** by exposure to bisphenol A during gestation and lactation.
van Esterik JC, Dollé ME, Lamoree MH, van Leeuwen SP, Hamers T, Legler J, van der Ven LT.
Toxicology. 2014 Jul 3;321:40-52. doi: 10.1016/j.tox.2014.04.001. Epub 2014 Apr 13.

4. Concentrations of phthalates and **bisphenol A** in Norwegian foods and beverages and estimated dietary exposure in adults.
Sakhi AK, Lillegaard IT, Voorspoels S, Carlsen MH, Løken EB, Brantsæter AL, Haugen M, Meltzer HM, Thomsen C.
Environ Int. 2014 Aug 27;73C:259-269. doi: 10.1016/j.envint.2014.08.005. [Epub ahead of print]

5. Models of science-policy interaction: exploring approaches to **Bisphenol A** management in the EU.
Udovyk O.
Sci Total Environ. 2014 Jul 1;485-486:23-30. doi: 10.1016/j.scitotenv.2014.03.046. Epub 2014 Apr 1.

6. **Bisphenol A**, obesity, and type 2 diabetes mellitus: genuine concern or unnecessary preoccupation?
Mirmira P, Evans-Molina C.
Transl Res. 2014 Jul;164(1):13-21. doi: 10.1016/j.trsl.2014.03.003. Epub 2014 Mar 13. Review.

7. **Bisphenol-A** and diethylstilbestrol exposure induces the expression of breast cancer associated long noncoding RNA HOTAIR in vitro and in vivo.
Bhan A, Hussain I, Ansari KI, Bobzean SA, Perrotti LI, Mandal SS.
J Steroid Biochem Mol Biol. 2014 May;141:160-70. doi: 10.1016/j.jsbmb.2014.02.002. Epub 2014 Feb 14.

8. Effects of **bisphenol A** and 4-nonylphenol on cellular responses through the different induction of LPA receptors in liver epithelial WB-F344 cells.
Dong Y, Araki M, Hirane M, Tanabe E, Fukushima N, Tsujiuchi T.
J Recept Signal Transduct Res. 2014 Jun;34(3):201-4. doi: 10.3109/10799893.2013.876040. Epub 2014 Jan 24.

9. Adverse effects of long-term exposure to **bisphenol A** during adulthood leading to hyperglycemia and hypercholesterolemia in mice.
Marmugi A, Lasserre F, Beuzelin D, Ducheix S, Huc L, Polizzi A, Chetivaux M, Pineau T, Martin P, Guillou H, Mselli-Lakhal L.
Toxicology. 2014 Aug 25. pii: S0300-483X(14)00165-6. doi: 10.1016/j.tox.2014.08.006. [Epub ahead of print]

10. **Bisphenol A**, oocyte maturation, implantation, and IVF outcome: review of animal and human data.
Machtinger R, Orvieto R.
Reprod Biomed Online. 2014 Jul 10. pii: S1472-6483(14)00362-9. doi: 10.1016/j.rbmo.2014.06.013. [Epub ahead of print] Review.

11.Perinatal exposure to **bisphenol A** exacerbates nonalcoholic steatohepatitis-like phenotype in male rat offspring fed on a high-fat diet.
Wei J, Sun X, Chen Y, Li Y, Song L, Zhou Z, Xu B, Lin Y, Xu S.
J Endocrinol. 2014 Sep;222(3):313-25. doi: 10.1530/JOE-14-0356.

12. Lifetime-dependent effects of **bisphenol A** on asthma development in an experimental mouse model.
Petzold S, Averbeck M, Simon JC, Lehmann I, Polte T.
PLoS One. 2014 Jun 20;9(6):e100468. doi: 10.1371/journal.pone.0100468. eCollection 2014.

13. Food intolerance at adulthood after perinatal exposure to the **endocrine disruptor bisphenol A**.
Menard S, Guzylack-Piriou L, Leveque M, Braniste V, Lencina C, Naturel M, Moussa L, Sekkal S, Harkat C, Gaultier E, Theodorou V, Houdeau E.
FASEB J. 2014 Aug 1. pii: fj.14-255380. [Epub ahead of print]

14. Estrogen and bisphenol a affect male **rat** enamel formation and promote ameloblast proliferation.
Jedeon K, Loiodice S, Marciano C, Vinel A, Canivenc Lavier MC, Berdal A, Babajko S.
Endocrinology. 2014 Sep;155(9):3365-75. doi: 10.1210/en.2013-2161. Epub 2014 Jul 8.

15. Sex-specific effects of long-term exposure to bisphenol-A on anxiety- and depression-like behaviors in adult mice.
Xu X, Dong F, Yang Y, Wang Y, Wang R, Shen X.
Chemosphere. 2014 Aug 8;120C:258-266. doi: 10.1016/j.chemosphere.2014.07.021. [Epub ahead of print]

16. Bisphenol a regulates the estrogen receptor alpha signaling in developing hippocampus of male **rats** through estrogen receptor.
Xu XB, He Y, Song C, Ke X, Fan SJ, Peng WJ, Tan R, Kawata M, Matsuda KI, Pan BX, Kato N.
Hippocampus. 2014 Jul 30. doi: 10.1002/hipo.22336. [Epub ahead of print]

17. Triclosan exacerbates the presence of 14C-bisphenol A in tissues of female and male **mice**.
Pollock T, Tang B, deCatanzaro D.
Toxicol Appl Pharmacol. 2014 Jul 15;278(2):116-23. doi: 10.1016/j.taap.2014.04.017. Epub 2014 Apr 29.

18. Mitochondrial dysfunction in early life resulted from perinatal bisphenol A exposure contributes to hepatic steatosis in **rat** offspring.
Jiang Y, Xia W, Zhu Y, Li X, Wang D, Liu J, Chang H, Li G, Xu B, Chen X, Li Y, Xu S.

Toxicol Lett. 2014 Jul 15;228(2):85-92. doi: 10.1016/j.toxlet.2014.04.013. Epub 2014 Apr 24.

19. Localization of cytochrome P450 and related enzymes in adult **rat** testis and downregulation by estradiol and bisphenol A.
Gilibili RR, Vogl AW, Chang TK, Bandiera SM.
Toxicol Sci. 2014 Jul;140(1):26-39. doi: 10.1093/toxsci/kfu070. Epub 2014 Apr 20.

20. Estrogen-related receptor γ is an **in vivo** receptor of bisphenol A.
Tohmé M, Prud'homme SM, Boulahtouf A, Samarut E, Brunet F, Bernard L, Bourguet W, Gibert Y, Balaguer P, Laudet V.
FASEB J. 2014 Jul;28(7):3124-33. doi: 10.1096/fj.13-240465. Epub 2014 Apr 17.

21. Abbreviated assessment of bisphenol A toxicology literature.
Tyl RW.
Semin Fetal Neonatal Med. 2014 Jun;19(3):195-202. doi: 10.1016/j.siny.2013.11.010. Epub 2013 Dec 31.

22. **Bisphenol-A**: epigenetic reprogramming and effects on reproduction and behavior.
Mileva G, Baker SL, Konkle AT, Bielajew C.
Int J Environ Res Public Health. 2014 Jul 22;11(7):7537-61. doi: 10.3390/ijerph110707537.

23. Adolescent **bisphenol-A** exposure decreases dendritic spine density: Role of sex and age.
Bowman RE, Luine V, Khandaker H, Villafane JJ, Frankfurt M.
Synapse. 2014 Jun 27. doi: 10.1002/syn.21758. [Epub ahead of print]

24. Non-monotonic dose responses in studies of **endocrine disrupting** chemicals: **bisphenol a** as a case study.
Vandenberg LN.
Dose Response. 2013 Oct 7;12(2):259-76. doi: 10.2203/dose-response.13-020.Vandenberg. eCollection 2014 May.

25.**Bisphenol a** and the female reproductive tract: an overview of recent laboratory evidence and epidemiological studies.
Caserta D, Di Segni N, Mallozzi M, Giovanale V, Mantovani A, Marci R, Moscarini M.
Reprod Biol Endocrinol. 2014 May 9;12:37. doi: 10.1186/1477-7827-12-37.

26. F0 maternal **BPA** exposure induced glucose intolerance of F2 generation through DNA methylation change in Gck.
Li G, Chang H, Xia W, Mao Z, Li Y, Xu S.
Toxicol Lett. 2014 Aug 4;228(3):192-9. doi: 10.1016/j.toxlet.2014.04.012. Epub 2014 May 1.

Phthalates and others

1."Everybody's plastic": So what?
Erren TC, Meyer-Rochow VB, Groß JV.
Reprod Toxicol. 2014 Aug 9. pii: S0890-6238(14)00200-7. doi: 10.1016/j.reprotox.2014.07.079. [Epub ahead of print] No abstract available.

2.In utero and peripubertal exposure to phthalates and **BPA** in relation to female sexual maturation.
Watkins DJ, Téllez-Rojo MM, Ferguson KK, Lee JM, Solano-Gonzalez M, Blank-Goldenberg C, Peterson KE, Meeker JD.
Environ Res. 2014 Aug 27;134C:233-241. doi: 10.1016/j.envres.2014.08.010. [Epub ahead of print]

3.Genotoxicity of phthalates.
Erkekoglu P, Kocer-Gumusel B.
Toxicol Mech Methods. 2014 Sep 1:1-38. [Epub ahead of print]

4.The Adverse Cardiac Effects of Di(2-ethylhexyl)phthalate and Bisphenol A.
Posnack NG.
Cardiovasc Toxicol. 2014 May 9. [Epub ahead of print]

5.Daily exposure to Di(2-ethylhexyl) phthalate alters estrous cyclicity and accelerates primordial follicle recruitment potentially via dysregulation of the phosphatidylinositol 3-kinase signaling pathway in adult **mice**.
Hannon PR, Peretz J, Flaws JA.
Biol Reprod. 2014 Jun;90(6):136. doi: 10.1095/biolreprod.114.119032. Epub 2014 May 7.

6.Effects of di-(2-ethylhexyl) phthalate on the hypothalamus-pituitary-ovarian axis in adult female **rats**.
Liu T, Li N, Zhu J, Yu G, Guo K, Zhou L, Zheng D, Qu X, Huang J, Chen X, Wang S, Ye L.
Reprod Toxicol. 2014 Jul;46:141-7. doi: 10.1016/j.reprotox.2014.03.006. Epub 2014 Mar 24.

7.Disruption of **Rat** Testis Development Following Combined In Utero Exposure to the Phytoestrogen Genistein and Anti-Androgenic Plasticizer Di-(2-Ethylhexyl) Phthalate.
Jones S, Boisvert A, Duong TB, Francois S, Thrane P, Culty M.
Biol Reprod. 2014 Jul 16. pii: biolreprod.114.120907. [Epub ahead of print]

8.Assessment of estrogenic potential of diethyl phthalate in female reproductive system involving both genomic and non-genomic actions.
Kumar N, Sharan S, Srivastava S, Roy P.
Reprod Toxicol. 2014 Jul 1;49C:12-26. doi: 10.1016/j.reprotox.2014.06.008. [Epub ahead of print]

9.In utero exposure to the **endocrine disruptor** di-(2-ethylhexyl) phthalate induces long-term changes in gene expression in the adult male adrenal gland.
Martinez-Arguelles DB, Campioli E, Lienhart C, Fan J, Culty M, Zirkin BR, Papadopoulos V.
Endocrinology. 2014 May;155(5):1667-78. doi: 10.1210/en.2013-1921. Epub 2014 Feb 24.

Perflourinated and Polyflourinated compounds

1.Proteomic analysis of mouse testis reveals perfluorooctanoic acid-induced reproductive dysfunction via direct disturbance of testicular steroidogenic machinery.
Zhang H, Lu Y, Luo B, Yan S, Guo X, Dai J.
J Proteome Res. 2014 Jul 3;13(7):3370-85. doi: 10.1021/pr500228d. Epub 2014 Jun 25.

Pesticides/Fungicides/Insecticides

1.Maternal cypermethrin exposure during the perinatal period impairs testicular development in C57BL male offspring.
Huang C, Li X.
PLoS One. 2014 May 8;9(5):e96781. doi: 10.1371/journal.pone.0096781. eCollection 2014.

2.The ameliorative effect of propolis against methoxychlor induced ovarian toxicity in **rat**.
El-Sharkawy EE, Kames AO, Sayed SM, Nisr NA, Wahba NM, Elsherif WM, Nafady AM, Abdel-Hafeez MM, Aamer AA.
Exp Toxicol Pathol. 2014 Jul 14. pii: S0940-2993(14)00088-8. doi: 10.1016/j.etp.2014.06.003. [Epub ahead of print]

3.Reproductive and possible hormonal effects of carbendazim.
Rama EM, Bortolan S, Vieira ML, Gerardin DC, Moreira EG.
Regul Toxicol Pharmacol. 2014 Aug;69(3):476-86. doi: 10.1016/j.yrtph.2014.05.016. Epub 2014 May 24.

4.Perinatal exposure to methoxychlor enhances adult cognitive responses and hippocampal neurogenesis in **mice**.
Martini M, Calandreau L, Jouhanneau M, Mhaouty-Kodja S, Keller M.
Front Behav Neurosci. 2014 Jun 16;8:202. doi: 10.3389/fnbeh.2014.00202. eCollection 2014.

5.Prenatal exposure to a low fipronil dose disturbs maternal behavior and reflex development in **rats**.
Udo MS, Sandini TM, Reis TM, Bernardi MM, Spinosa HS.
Neurotoxicol Teratol. 2014 Jun 28;45C:27-33. doi: 10.1016/j.ntt.2014.05.010. [Epub ahead of print]

6.Dietary exposure in utero and during lactation to a mixture of genistein and an anti-androgen fungicide in a **rat** mammary carcinogenesis model.
Phrakonkham P, Brouland JP, Saad HE, Bergès R, Pimpie C, Pocard M, Canivenc-Lavier MC, Perrot-Applanat M.
Reprod Toxicol. 2014 Jun 8. pii: S0890-6238(14)00101-4. doi: 10.1016/j.reprotox.2014.05.016. [Epub ahead of print]

7.Toxicity endpoint selections for a simazine risk assessment.
Silva M, Iyer P.
Birth Defects Res B Dev Reprod Toxicol. 2014 Aug;101(4):308-24. doi: 10.1002/bdrb.21114. Epub 2014 Jul 30.

8.Sexually dimorphic effects of ancestral exposure to vinclozolin on stress reactivity in rats.
Gillette R, Miller-Crews I, Nilsson EE, Skinner MK, Gore AC, Crews D.
Endocrinology. 2014 Jul 22:en20141253. [Epub ahead of print] **Valgt**

9.Additive and synergistic antiandrogenic activities of mixtures of azol fungicides and vinclozolin.
Christen V, Crettaz P, Fent K.
Toxicol Appl Pharmacol. 2014 Jul 11;279(3):455-466. doi: 10.1016/j.taap.2014.06.025. [Epub ahead of print]

Various Nano-materials/compounds

1.Engineered nanomaterials: an emerging class of novel **endocrine disruptors**.

Larson JK, Carvan MJ 3rd, Hutz RJ.
Biol Reprod. 2014 Jul;91(1):20. doi: 10.1095/biolreprod.113.116244. Epub 2014 Jun 4.

Various EDCs, Mixtures and Other endpoints

1.The underestimated value of OECD 421 and 422 repro screening studies: Putting it in the right perspective.
Beekhuijzen M, de Raaf MA, Zmarowski A, van Otterdijk F, Peter B, Emmen H.
Reprod Toxicol. 2014 Sep;48:81-7. doi: 10.1016/j.reprotox.2014.04.003. Epub 2014 Apr 21. **Valgt**

2.Mixture effects at very low doses with combinations of anti-androgenic pesticides, antioxidants, industrial pollutant and chemicals used in personal care products.
Orton F, Ermler S, Kugathas S, Rosivatz E, Scholze M, Kortenkamp A.
Toxicol Appl Pharmacol. 2014 Aug 1;278(3):201-8. doi: 10.1016/j.taap.2013.09.008. Epub 2013 Sep 18.

3.Developmental exposure of **mice** to dioxin promotes transgenerational testicular inflammation and an increased risk of preterm birth in unexposed mating partners.
Bruner-Tran KL, Ding T, Yeoman KB, Archibong A, Arosh JA, Osteen KG.
PLoS One. 2014 Aug 15;9(8):e105084. doi: 10.1371/journal.pone.0105084. eCollection 2014.

4.The gut microbiota and developmental programming of the testis in **mice**.
Al-Asmakh M, Stukenborg JB, Reda A, Anuar F, Strand ML, Hedin L, Pettersson S, Söder O.
PLoS One. 2014 Aug 13;9(8):e103809. doi: 10.1371/journal.pone.0103809. eCollection 2014.

5.Soy Promotes Juvenile Granulosa Cell Tumor Development in **Mice** and in the Human Granulosa Cell Tumor-Derived COV434 Cell Line.
Mansouri-Attia N, James R, Ligon A, Li X, Pangas SA.
Biol Reprod. 2014 Aug 27. pii: biolreprod.114.120899. [Epub ahead of print]

6.Enamel hypomineralization due to **endocrine disruptors**.
Jedeon K, Marciano C, Loiodice S, Boudalia S, Canivenc Lavier MC, Berdal A, Babajko S.
Connect Tissue Res. 2014 Aug;55 Suppl 1:43-7. doi: 10.3109/03008207.2014.923857.

7.The effect of tetrabromobisphenol A on protamine content and DNA integrity in mouse spermatozoa.
Zatecka E, Castillo J, Elzeinova F, Kubatova A, Ded L, Peknicova J, Oliva R.
Andrology. 2014 Aug 22. doi: 10.1111/j.2047-2927.2014.00257.x. [Epub ahead of print]

8.Postnatal Ovary Development in the **Rat**: Morphologic Study and Correlation of Morphology to Neuroendocrine Parameters.
Picut CA, Dixon D, Simons ML, Stump DG, Parker GA, Remick AK.
Toxicol Pathol. 2014 Aug 8. pii: 0192623314544380. [Epub ahead of print]

9.Recovery from developmental nonylphenol exposure is possible for female **rats**.
Chang LL, Wun WS, Wang PS.
Chem Biol Interact. 2014 Aug 7;221C:52-60. doi: 10.1016/j.cbi.2014.07.010. [Epub ahead of print]

10.Disruption of thyroid hormone functions by low dose exposure of tributyltin: An in vitro and **in vivo** approach.
Sharan S, Nikhil K, Roy P.

Gen Comp Endocrinol. 2014 Aug 4. pii: S0016-6480(14)00300-1. doi: 10.1016/j.ygcen.2014.07.027. [Epub ahead of print]

11.Timing and recovery of postweaning exposure to diethylstilbestrol on early pregnancy in CD-1 **mice**.
Zhao F, Zhou J, El Zowalaty AE, Li R, Dudley EA, Ye X.
Reprod Toxicol. 2014 Jul 22;49C:48-54. doi: 10.1016/j.reprotox.2014.07.072. [Epub ahead of print]

12.Neurodevelopmental and behavioral effects of nonylphenol exposure during gestational and breastfeeding period on F1 **rats**.
Couderc M, Gandar A, Kamari A, Allain Y, Zalouk-Vergnoux A, Herrenknecht C, Le Bizec B, Mouneyrac C, Poirier L.
Neurotoxicology. 2014 Jul 21;44C:237-249. doi: 10.1016/j.neuro.2014.07.002. [Epub ahead of print]

13.Disposition of Phenolic and Sulfated Metabolites after Inhalation Exposure to 4-Chlorobiphenyl (PCB3) in Female **Rats**.
Dhakal K, Uwimana E, Adamcakova-Dodd A, Thorne PS, Lehmler HJ, Robertson LW.
Chem Res Toxicol. 2014 Jul 15. [Epub ahead of print]

14.Predictive endocrine testing in the 21st century using in vitro assays of estrogen receptor signaling responses.
Rotroff DM, Martin MT, Dix DJ, Filer DL, Houck KA, Knudsen TB, Sipes NS, Reif DM, Xia M, Huang R, Judson RS.
Environ Sci Technol. 2014 Aug 5;48(15):8706-16. doi: 10.1021/es502676e. Epub 2014 Jul 10.

15.Occurrence and distribution of PCB metabolites in blood and their potential health effects in humans: a review.
Quinete N, Schettgen T, Bertram J, Kraus T.
Environ Sci Pollut Res Int. 2014 Jun 19. [Epub ahead of print]

16.Occurrences, toxicities, and ecological risks of benzophenone-3, a common component of organic sunscreen products: a mini-review.
Kim S, Choi K.
Environ Int. 2014 Sep;70:143-57. doi: 10.1016/j.envint.2014.05.015. Epub 2014 Jun 14. Review.

17.Oral exposure of pubertal male **mice** to **endocrine-disrupting** chemicals alters fat metabolism in adult livers.
Jin Y, Lin X, Miao W, Wang L, Wu Y, Fu Z.
Environ Toxicol. 2014 Jun 11. doi: 10.1002/tox.22013. [Epub ahead of print]

18.Identification of interspecific differences in phase II reactions: Determination of metabolites in the urine of 16 **mammalian** species exposed to environmental pyrene.
Saengtienchai A, Ikenaka Y, Nakayama SM, Mizukawa H, Kakehi M, Bortey-Sam N, Darwish WS, Tsubota T, Terasaki M, Poapolathep A, Ishizuka M.

19. Critical analysis of **endocrine disruptive** activity of triclosan and its relevance to human exposure through the use of personal care products.
Witorsch RJ.
Crit Rev Toxicol. 2014 Jul;44(6):535-55. doi: 10.3109/10408444.2014.910754. Epub 2014 Jun 4.

20.Differential susceptibility of brain regions to tributyltin chloride toxicity.
Mitra S, Siddiqui WA, Khandelwal S.
Environ Toxicol. 2014 Jun 3. doi: 10.1002/tox.22009. [Epub ahead of print]

21.Obesogenic effects of **endocrine disruptors**, what do we know from animal and human studies?
de Cock M, van de Bor M.
Environ Int. 2014 Sep;70:15-24. doi: 10.1016/j.envint.2014.04.022. Epub 2014 May 28.

22.Therapeutic effect of pectin on octylphenol induced kidney dysfunction, oxidative stress and apoptosis in **rats**.
Koriem KM, Arbid MS, Emam KR.
Environ Toxicol Pharmacol. 2014 Jul;38(1):14-23. doi: 10.1016/j.etap.2014.04.029. Epub 2014 May 9.

23.Changes in thyroid status of **rats** after prolonged exposure to low dose dichlorodiphenyltrichloroethane.
Yaglova NV, Yaglov VV.
Bull Exp Biol Med. 2014 Apr;156(6):760-2. doi: 10.1007/s10517-014-2443-y. Epub 2014 May 3.

24.Steroids and **endocrine disruptors**-History, recent state of art and open questions.
Hampl R, Kubátová J, Stárka L.
J Steroid Biochem Mol Biol. 2014 May 9. pii: S0960-0760(14)00099-5. doi: 10.1016/j.jsbmb.2014.04.013. [Epub ahead of print] Review.

25.Early Life Triclocarban Exposure During Lactation Affects Neonate **Rat** Survival.
Kennedy RC, Menn FM, Healy L, Fecteau KA, Hu P, Bae J, Gee NA, Lasley BL, Zhao L, Chen J.
Reprod Sci. 2014 May 6. [Epub ahead of print]

26.Biomonitoring and hormone-disrupting effect biomarkers of persistent organic pollutants in vitro and ex vivo.
Bonefeld-Jørgensen EC, Ghisari M, Wielsøe M, Bjerregaard-Olesen C, Kjeldsen LS, Long M.
Basic Clin Pharmacol Toxicol. 2014 Jul;115(1):118-28. doi: 10.1111/bcpt.12263. Epub 2014 May 29.

27.Effects of tamoxifen on the sex determination gene and the activation of sex reversal in the developing gonad of **mice**.
Yu M, Wang J, Liu W, Qin J, Zhou Q, Wang Y, Huang H, Chen W, Ma C.
Toxicology. 2014 Jul 3;321:89-95. doi: 10.1016/j.tox.2014.04.006. Epub 2014 Apr 24.

28.Exposure of **mice** to benzo(a)pyrene impairs endometrial receptivity and reduces the number of implantation sites during early pregnancy.
Zhao Y, Chen X, Liu X, Ding Y, Gao R, Qiu Y, Wang Y, He J.
Food Chem Toxicol. 2014 Jul;69:244-51. doi: 10.1016/j.fct.2014.04.021. Epub 2014 Apr 24.

29.Progression of breast cancer cells was enhanced by **endocrine-disrupting** chemicals, triclosan and octylphenol, via an estrogen receptor-dependent signaling pathway in cellular and mouse xenograft models.
Lee HR, Hwang KA, Nam KH, Kim HC, Choi KC.
Chem Res Toxicol. 2014 May 19;27(5):834-42. doi: 10.1021/tx5000156. Epub 2014 Apr 8.

30.Determination of selected **endocrine disrupting** compounds in human fetal and newborn tissues by GC-MS.
Cappiello A, Famiglini G, Palma P, Termopoli V, Lavezzi AM, Matturri L.

Anal Bioanal Chem. 2014 May;406(12):2779-88. doi: 10.1007/s00216-014-7692-0. Epub 2014 Mar 16.

31.Neonatal exposure to 17α-ethynyl estradiol affects ovarian gene expression and disrupts reproductive cycles in female **rats**.
Nozawa K, Nagaoka K, Zhang H, Usuda K, Okazaki S, Taya K, Yoshida M, Watanabe G.
Reprod Toxicol. 2014 Jul;46:77-84. doi: 10.1016/j.reprotox.2014.03.001. Epub 2014 Mar 13.

32.Histopathological characteristics of human non-tumor thyroid tissues in a long-term model of adenomatous goiter xenografts in the NOD/Shi-scid, IL-2Rγ(null) mouse.
Fujii E, Kato A, Chen YJ, Matsubara K, Ohnishi Y, Suzuki M.
Exp Toxicol Pathol. 2014 Jul;66(4):203-9. doi: 10.1016/j.etp.2014.01.006. Epub 2014 Feb 28.

33.Diethylstilbestrol decreased adrenal cholesterol and corticosterone in **rats**.
Haeno S, Maeda N, Yagi T, Tahata S, Sato M, Sakaguchi K, Miyasho T, Ueda H, Yokota H.
J Endocrinol. 2014 Apr 22;221(2):261-72. doi: 10.1530/JOE-13-0460. Print 2014 May.

34.**Endocrine disruptors** differently influence estrogen receptor β and androgen receptor in male and female **rat** VSMC.
Pellegrini M, Bulzomi P, Lecis M, Leone S, Campesi I, Franconi F, Marino M.
J Cell Physiol. 2014 Aug;229(8):1061-8. doi: 10.1002/jcp.24530.

35.Monomethylated trivalent arsenic species disrupt steroid receptor interactions with their DNA response elements at non-cytotoxic cellular concentrations.
Gosse JA, Taylor VF, Jackson BP, Hamilton JW, Bodwell JE.
J Appl Toxicol. 2014 May;34(5):498-505. doi: 10.1002/jat.2898. Epub 2013 Jun 14.

36.AroER tri-screen is a biologically relevant assay for **endocrine disrupting** chemicals modulating the activity of aromatase and/or the estrogen receptor.
Chen S, Zhou D, Hsin LY, Kanaya N, Wong C, Yip R, Sakamuru S, Xia M, Yuan YC, Witt K, Teng C.
Toxicol Sci. 2014 May;139(1):198-209. doi: 10.1093/toxsci/kfu023. Epub 2014 Feb 4.

37.Neurodevelopmental and **behavioral** effects of nonylphenol exposure during gestational and breastfeeding period on F1 **rats**.
Couderc M, Gandar A, Kamari A, Allain Y, Zalouk-Vergnoux A, Herrenknecht C, Le Bizec B, Mouneyrac C, Poirier L.
Neurotoxicology. 2014 Jul 21;44C:237-249. doi: 10.1016/j.neuro.2014.07.002. [Epub ahead of print]

38.Prenatal exposure to a low fipronil dose disturbs maternal **behavior** and reflex development in **rats**.
Udo MS, Sandini TM, Reis TM, Bernardi MM, Spinosa HS.
Neurotoxicol Teratol. 2014 Jun 28;45C:27-33. doi: 10.1016/j.ntt.2014.05.010. [Epub ahead of print]

39.Triclosan exacerbates the presence of 14C-bisphenol A in tissues of female and male **mice**.
Pollock T, Tang B, deCatanzaro D.
Toxicol Appl Pharmacol. 2014 Jul 15;278(2):116-23. doi: 10.1016/j.taap.2014.04.017. Epub 2014 Apr 29.

40.REPRODUCTION SYMPOSIUM: Developmental programming of reproductive and metabolic health.
Padmanabhan V, Veiga-Lopez A.
J Anim Sci. 2014 Aug;92(8):3199-210. doi: 10.2527/jas.2014-7637.

41.Should oral gavage be abandoned in toxicity testing of **endocrine disruptors**?
Vandenberg LN, Welshons WV, Vom Saal FS, Toutain PL, Myers JP.
Environ Health. 2014 Jun 25;13(1):46. doi: 10.1186/1476-069X-13-46.

42.Casting a wide net for **endocrine disruptors**.
Vandenberg LN, Catanese MC.
Chem Biol. 2014 Jun 19;21(6):705-6. doi: 10.1016/j.chembiol.2014.06.002.

43.Exposure to **endocrine disrupting** chemicals and male reproductive health.
Jeng HA.
Front Public Health. 2014 Jun 5;2:55. doi: 10.3389/fpubh.2014.00055. eCollection 2014. Review.

44.**Endocrine disruptors** differently influence estrogen receptor β and androgen receptor in male and female rat VSMC.
Pellegrini M, Bulzomi P, Lecis M, Leone S, Campesi I, Franconi F, Marino M.
J Cell Physiol. 2014 Aug;229(8):1061-8. doi: 10.1002/jcp.24530.

Wildlife studier ved Biologisk Institut, Syddansk Universitet (SDU)

Søgningen er udført på Web of Knowledge (all databases) og dækker perioden 28/4 – 15/8 2014.

Søgeprofilen kombinerer: Endocrine disrupt* and	Fish* Amphibia* Bird* OR Avia* Invertebrat* Mollus* Gastropod* Insect* Crustacea* Echinoderm* Ursus Reptil* OR Alligator Whal* OR seal* OR dolphin*

Fra bruttolisten (længere nede i dokumentet) er udvalgt fire artikler til medtagelse af abstract og yderligere kommentarer. Artikel 3 og 4 omhandler begge anvendelsen af ALP som biomarkør for hormonforstyrrende stoffer i muslinger og kommenteres samlet.
Kriterierne for udvælgelsen af publikationer til kommentering er, at de bidrager til ny viden omkring effekter af og virkningsmekanismer for hormonforstyrrende stoffer i 'wildlife' og/eller at de repræsenterer vigtig viden, som vurderes at have særlig interesse for Miljøstyrelsen bl.a. i forbindelse med styrelsens fokus på udvikling af testmetoder. Desuden kommenteres artikler, der omhandler 'nye' stoffer og miljøfaktorer, der har vist sig hormonforstyrrende; specielt hvis disse har relevans for danske forhold. Endelig medtages efter Miljøstyrelsens ønske artikler omhandlende parabener.

Udvalgte artikler

Artikel 1: Are In Vitro Methods for the Detection of Endocrine Potentials in the Aquatic Environment Predictive for In Vivo Effects? Outcomes of the Projects SchussenAktiv and SchussenAktiv plus in the Lake Constance Area, Germany. Henneberg, A.; Bender, K.; Blaha, L.; Giebner, S.; Kuch, B.; Koehler, H. R.; Maier, D.; Oehlmann, J.; Richter, D.; Scheurer, M.; Schulte-Oehlmann, U.; Sieratowicz, A.; Ziebart, S.; and Triebskorn, R. 2014. Plos One 9.

Abstract: Many studies about endocrine pollution in the aquatic environment reveal changes in the reproduction system of biota. We analysed endocrine activities in two rivers in Southern Germany using three approaches: (1) chemical analyses, (2) **in vitro** bioassays, and (3) **in vivo** investigations in fish and snails. Chemical analyses were based on gas chromatography coupled with mass spectrometry. For **in vitro** analyses of endocrine potentials in water, sediment, and waste water samples, we used the E-screen assay (human breast cancer cells MCF-7) and reporter gene assays (human cell line HeLa-9903 and MDA-kb2). In addition, we performed reproduction tests with the freshwater mudsnail **Potamopyrgus antipodarum** to analyse water and sediment samples. We exposed juvenile brown trout (**Salmo trutta** f. **fario**) to water downstream of a wastewater outfall (Schussen River) or to water from a reference site (Argen River) to investigate the vitellogenin production. Furthermore, two feral fish species, chub (**Leuciscus cephalus**) and spirlin (**Alburnoides bipunctatus**), were caught in both rivers to determine their gonadal maturity and the gonadosomatic index. Chemical analyses provided only little information about endocrine active substances, whereas the **in vitro** assays revealed endocrine potentials in most of the samples. In addition to endocrine potentials, we also observed toxic potentials (E-screen/reproduction test) in waste water samples, which could interfere with and camouflage endocrine effects. The results of our **in vivo** tests were mostly in line with the results of the **in vitro** assays and revealed a consistent reproduction-disrupting (reproduction tests) and an occasional endocrine action (vitellogenin levels) in both investigated rivers, with more pronounced effects for the Schussen river (e.g. a lower gonadosomatic index). We were able to show that biological **in vitro** assays for endocrine potentials in natural stream water reasonably reflect reproduction and endocrine disruption observed in snails and field-exposed fish, respectively.

Artikel 2: Population relevance of toxicant mediated changes in sex ratio in fish: An assessment using an individual-based zebrafish (Danio rerio) model. Hazlerigg, C. R.; Tyler, C. R.; Lorenzen, K.; Wheeler, J. R.; and Thorbek, P. 2014. Ecological Modelling 280, 76-88.

Abstract: Ecological risk assessments (ERAs) of toxicants are predominantly based on data from laboratory tests on individuals. However, the protection goal is generally at the population level. Ecological modelling has the potential to link individual-level effects to population-level outcomes. Here we developed an individual-based zebrafish population model to study the possible population-level relevance of toxicant-mediated changes in sex ratio. The model was structured with sub-models based on empirical data (e.g. growth, reproduction, mortality) derived from a combination of our own laboratory and field experiments, the literature and theoretical concepts. The outputs of the default model were validated against size distributions for wild populations of zebrafish sampled in Bangladesh. Sensitivity analysis showed that population abundance was most sensitive to changes in density-dependent survival and the availability of refugia for juveniles. The model was then used to determine the population-level relevance of changes in sex ratio caused by

an androgenic (dihydrotestosterone) and oestrogenic (4-tert-octylphenol) substance. Both were investigated under acute (10 day) and chronic (1 year) exposure regimes. Acute exposures to the test chemicals had little effect on population-level endpoints at any of the concentrations tested. Chronic exposures decreased population abundance at higher concentrations for both chemicals and most strongly with DHT. However, these concentrations were far in excess of environmentally realistic levels. Our study demonstrated that ecological models can be applied to link laboratory derived ecotoxicity data at the individual level to impacts at the population level and in our study we found different modes of action and potencies caused different levels of population perturbation. Ecological models can therefore help in assessing the ecological relevance of different organism-level effects of toxicants aiding future environ-mental protection strategies.

Artikel 3: Evaluation of yolk protein levels as estrogenic biomarker I bivalves; comparison of the alkali-labile phosphate method (ALP) and a species-specific immunoassay (ELISA). Morthorst, J.; Holbech, H.; Jeppesen, M.; Kinnberg, K. L.; Pedersen, K. L. and Bjerregaard, P. 2014. Comparative Biochemistry and Physiology C - Toxicology & Pharmacology 166, 88-95.

Abstract: Altered concentration of the vertebrate yolk protein precursor vitellogenin is a recognized biomarker for endocrine disruption in fish, and within recent years yolk protein alteration has also been associated with endocrine disruption in bivalves. Species-specific, direct and sensitive methods for quantification of vitellogenin in fish have been available for years whereas bivalve yolk protein levels have been estimated indirectly by alkali-labile phosphate (ALP) liberated from high molecular weight proteins because the sequence and biochemical structure of most bivalve yolk proteins are unknown. By applying a species-specific enzyme-linked immunosorbent assay (ELISA) for accurate determination of yolk protein level the impact of 17β-estradiol (57, 164 and 512 ng/L) on the freshwater bivalve *Unio tumidus* was investigated and compared with ALP estimations. Seven weeks of exposure during the pre-spawning and spawning period had no consistent effect on yolk protein concentration in hemolymph, and ALP levels in hemolymph also remained unchanged in both males and females. Further, basal male and female ALP levels were indistinguishable whereas the ELISA demonstrated that yolk protein levels of females exceeded male levels at the time of sampling, although male basal levels were high compared to fish. Altogether it is shown that individual ALP levels do not reflect yolk protein levels and hence hemolymph ALP levels cannot serve as biomarker for estrogenic exposure during the pre-spawning and spawning period in *U. tumidus*. The necessity of sensitive and validated biomarkers for reliable interpretation of data and the utility of ALP and yolk protein levels as biomarkers in bivalves are discussed.

Artikel 4: Biochemical and proteomic characterization of haemolymph serum reveals the origin of the alkali-labile phosphate (ALP) in mussel (*Mytilus galloprovincialis*). Oliveri, C.; Peric, L.; Sforzini, S.; Banni, M.; Viarengo, A.; Cavaletto, M. and Marsano, F. 2014. Comparative Biochemistry and Physiology D 11, 29-36.

Abstract: Mollusc haemolymph proteins are known to play several important physiological roles in the immune system, heavy metal transport and the tissue distribution of lipophilic compounds. In this study, we analysed acetone-extracted proteins from mussel haemolymph by one- and two-dimensional gel electrophoresis. The proteins were identified by comparing mass spectrometry data with the invertebrate EST database, allowing us to establish the mussel haemolymph serumproteome. Extrapallial protein (EP) precursor represents the most abundant serum protein;

astacin and CuZn superoxide dismutase were also detected. Slight contamination from muscle proteins, due to the sampling method, was also found. No differences were observed in the profiles obtained for male and female serum proteins. One aspect of interest was the previously reported finding that alkali-labile phosphate (ALP) from haemolymph serum may be representative of vitellogenin (vtg)-like protein content in the circulatory fluid of molluscs. In our analysis of mussel haemolymph serum, vitellogenin-like proteins were never found. To confirm these data, a typical methyl-tert-butyl-ether (MTBE) extraction, which is specific for vtg-like proteins, was performed, and the results of the electrophoretic analyses were compared with those obtained by acetonic precipitation. The results showed that the electrophoretic profiles are similar and that vtg-like proteins cannot be identified. Moreover, the main phosphoprotein present in female and male extracts is EP protein precursor. In addition, agarose gel electrophoresis demonstrates that high-molecular-weight forms of vtg-like proteins are not detectable.

Bruttoliste

Alkylphenoler

Acute 4-nonylphenol toxicity changes the genomic expression profile of marine medaka fish, Oryzias javanicus.
Won, H.; Woo, S.; and Yum, S. 2014. Molecular & Cellular Toxicology 10, 181-195.

Bisphenol A

Bisphenol A affects larval growth and advances the onset of metamorphosis in Drosophila melanogaster.
Weiner, A.; Ramirez, A.; Zintel, T.; Rose, R.; Wolff, E.; Parker, A.; Bennett, K.; Johndreau, K.; Rachfalski, C.; Zhou, J.; and Smith, S. 2014. Ecotoxicology and Environmental Safety 101, 7-13.

Phthalater

Impact of ecological doses of the most widespread phthalate on a terrestrial species, the ant Lasius niger.
Cuvillier-Hot, V.; Salin, K.; Devers, S.; Tasiemski, A.; Schaffner, P.; Boulay, R.; Billiard, S.; and Lenoir, A. 2014. Environmental research 131, 104-110.

Phthalate ester leachates in aquatic mesocosms: Implications for ecotoxicity studies of endocrine disrupting compounds.
Weir, S. M.; Wooten, K. J.; Smith, P. N.; and Salice, C. J. 2014. Chemosphere 103, 44-50.

UV-filtre

The UV filter benzophenone 3 (BP-3) activates hormonal genes mimicking the action of ecdysone and alters embryo development inthe insect Chironomus riparius (Diptera).
Ozaez, I.; Martinez-Guitarte, J. L.; and Morcillo, G. 2014. Environmental pollution (Barking, Essex : 1987) 192, 19-26.

Flammehæmmere

Endocrine Disruption and Reproduction Impairment in Zebrafish After Long-Term Exposure to De-71.
Yu, L.; Liu, C.; Chen, Q.; and Zhou, B. 2014. Environmental Toxicology and Chemistry 33, 1354-1362.

Pesticider

Organochlorine pesticides in Muraena helena L. 1758 from the Eastern Adriatic Sea.
Dikic, D.; Cuic, A.; Jurak, G.; Lasic, D.; Skaramuca, D.; Matic-Skoko, S.; Tutman, P.; Bosnir, J.; Franjevic, D.; Franic, Z.; Fuchs, R.; and Skaramuca, B. 2014. Journal of Applied Ichthyology 30, 496-501.

Evaluation of Organochlorine Pesticides and Sex Steroids in Lower Niagara River Lake Sturgeon.
Jacobs, G. R.; Gundersen, D. T.; Webb, M. A.; Gorsky, D.; Kohl, K.; and Lockwood, K. 2014. Journal of Fish and Wildlife Management 5, 109-117.

Effects of Atrazine on Endocrinology and Physiology in Juvenile Barramundi, Lates Calcarifer (Bloch).
Kroon, F. J.; Hook, S. E.; Jones, D.; Metcalfe, S.; and Osborn, H. L. 2014. Environmental Toxicology and Chemistry 33, 1607-1614.

Two-dimensional proteomic analysis of gonads of air-breathing catfish, Clarias batrachus after the exposure of endosulfan and malathion.
Laldinsangi, C.; Vijayaprasadarao, K.; Rajakumar, A.; Murugananthkumar, R.; Prathibha, Y.; Sudhakumari, C.; Mamta, S.; Dutta-Gupta, A.; and Senthilkumaran, B. 2014. Environmental Toxicology and Pharmacology 37, 1006-1014.

Effects of glyphosate-based herbicides on survival, development, growth and sex ratios of wood frog (Lithobates sylvaticus) tadpoles. II: Agriculturally relevant exposures to Roundup WeatherMax and Vision under laboratory conditions.
Lanctot, C.; Navarro-Martin, L.; Robertson, C.; Park, B.; Jackman, P.; Pauli, B. D.; and Trudeau, V. L. 2014. Aquatic toxicology (Amsterdam, Netherlands) 154, 291-303.

Sublethal effects of the herbicide diuron on the freshwater snail Physella acuta.
Lopez-Doval, J. C.; Poquet, M.; and Munoz, I. 2014. Limnetica 33, 205-215.

Effects of clofibric acid alone and in combination with 17beta-estradiol on mRNA abundance in primary hepatocytes isolated from rainbow trout.
Sovadinova, I.; Liedtke, A.; and Schirmer, K. 2014. Toxicology in vitro : an international journal published in association with BIBRA 28, 1106-1116.

Sublethal toxicity of carbofuran on the African catfish Clarias gariepinus: Hormonal, enzymatic and antioxidant responses.
Ibrahim, A. T. and Harabawy, A. S. 2014. Ecotoxicology and Environmental Safety 106, 33-39.

Agrichemicals chronically inhibit the cortisol response to stress in fish.
Koakoski, G.; Quevedo, R. M.; Ferreira, D.; Oliveira, T. A.; da Rosa, J. G. S.; de Abreu, M. S.; Gusso, D.; Marqueze, A.; Kreutz, L. C.; Giacomini, A. C. V.; Fagundes, M.; and Barcellos, L. J. G. 2014. Chemosphere 112, 85-91.

An evaluation of fish early life stage tests for predicting reproductive and longer-term toxicity from plant protection product active substances.
Wheeler, J. R.; Maynard, S. K.; and Crane, M. 2014. Environmental toxicology and chemistry / SETAC 33, 1874-1878.

Assessment of the sensitivity of three North American fish species to disruptors of steroidogenesis using in vitro tissue explants.
Beitel, S. C.; Doering, J. A.; Patterson, S. E.; and Hecker, M. 2014. Aquatic Toxicology 152, 273-283.

A persistent organic pollutant related with unusual high frequency of hermaphroditism in the neotropical anuran Physalaemus cuvieri Fitzinger, 1826.
Moresco, R. M.; Margarido, V. P.; and de Oliveira, C. 2014. Environmental research 132, 6-11.

Organotin

Effects of tributyltin on metamorphosis and gonadal differentiation of Xenopus laevis at environmentally relevant concentrations.
Shi, H.; Zhu, P.; and Guo, S. 2014. Toxicology and Industrial Health 30, 297-303.

Tributyltin distribution and producing androgenic activity in water, sediment, and fish muscle.
Shue, M. F.; Chen, T. C.; Bellotindos, L. M.; and Lu, M. C. 2014. Journal of Environmental Science and Health Part B-Pesticides Food Contaminants and Agricultural Wastes 49, 432-438.

Tungmetaller

Lifelong Exposure to Methylmercury Disrupts Stress-Induced Corticosterone Response in Zebra Finches (Taeniopygia Guttata).
Moore, C. S.; Cristol, D. A.; Maddux, S. L.; Varian-Ramos, C. W.; and Bradley, E. L. 2014. Environmental Toxicology and Chemistry 33, 1072-1076.

Age-related mercury contamination and relationship with luteinizing hormone in a long-lived antarctic bird.
Tartu, S.; Bustamante, P.; Goutte, A.; Cherel, Y.; Weimerskirch, H.; Bustnes, J. O.; and Chastel, O. 2014. Plos One 9, e103642-e103642.

PCB og dioxin

Effects on Development, Growth Responses and Thyroid-Hormone Systems in Eyed-Eggs and Yolk-Sac Larvae of Atlantic Salmon (Salmo salar) Continuously Exposed to 3,3 ',4,4 '-Tetrachlorobiphenyl (PCB-77).
Arukwe, A.; Olufsen, M.; Cicero, N.; and Hansen, M. D. 2014. Journal of Toxicology and Environmental Health-Part A-Current Issues 77, 574-586.

In Utero Exposure to Environmentally Relevant Concentrations of PCB 153 and PCB 118 Disrupts Fetal Testis Development in Sheep.
Krogenaes, A. K.; Ropstad, E.; Gutleb, A. C.; Hardnes, N.; Berg, V.; Dahl, E.; and Fowler, P. A. 2014. Journal of Toxicology and Environmental Health-Part A-Current Issues 77, 628-649.

Developmental toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin in artificially fertilized crucian carp (Carassius auratus) embryo.
Park, Y. J.; Lee, M. J.; Kim, H. R.; Chung, K. H.; and Oh, S. M. 2014. The Science of the total environment 491-492, 271-278.

Lægemidler og syntetiske hormoner

Simulation of the fate of selected pharmaceuticals and personal care products in a highly impacted reach of a Canadian watershed.
Arlos, M.; Bragg, L.; Servos, M.; and Parker, W. 2014. Science of the Total Environment 485, 193-204.

Reversibility of endocrine disruption in zebrafish (Danio rerio) after discontinued exposure to the estrogen 17 alpha-ethinylestradiol.
Baumann, L.; Knoerr, S.; Keiter, S.; Rehberger, K.; Volz, S.; Schiller, V.; Fenske, M.; Holbech, H.; Segner, H.; and Braunbeck, T. 2014. Toxicology and Applied Pharmacology 278, 230-237.

Behavioural and transcriptional changes in the amphipod Echinogammarus marinus exposed to two antidepressants, fluoxetine and sertraline.
Bossus, M. C.; Guler, Y. Z.; Short, S. J.; Morrison, E. R.; and Ford, A. T. 2014. Aquatic Toxicology 151, 46-56.

Short-term treatment of adult male zebrafish (Danio Rerio) with 17 alpha-ethinyl estradiol affects the transcription of genes involved in development and male sex differentiation.
Caspillo, N. R.; Volkova, K.; Hallgren, S.; Olson, P. E.; and Porsch-Hallstrom, I. 2014. Comparative Biochemistry and Physiology C-Toxicology & Pharmacology 164, 35-42.

Hepatic expression patterns of aryl hydrocarbon receptor, pregnane X receptor, two cytochrome P450s and five phase II metabolism genes responsive to 17alpha-methyltestosterone in rare minnow Gobiocypyis rarus.
Gao, J.; Liu, S.; Zhang, Y.; Yuan, C.; Yang, Y.; and Wang, Z. 2014. Environmental Toxicology and Pharmacology 37, 1157-1168.

Use of antagonists and morpholinos in loss-of-function analyses: estrogen receptor ESR2a mediates the effects of 17alpha-ethinylestradiol on primordial germ cell distribution in zebrafish.
Hu, J.; Sun, S.; Guo, M.; and Song, H. 2014. Reproductive Biology and Endocrinology 12,

The progestin levonorgestrel disrupts gonadotropin expression and sex steroid levels in pubertal roach (Rutilus rutilus).
Kroupova, H. K.; Trubiroha, A.; Lorenz, C.; Contardo-Jara, V.; Lutz, I.; Grabic, R.; Kocour, M.; and Kloas, W. 2014. Aquatic toxicology (Amsterdam, Netherlands) 154, 154-162.

Persistent endocrine disruption effects in medaka fish with early life-stage exposure to a triazole-containing aromatase inhibitor (letrozole).
Liao, P. H.; Chu, S. H.; Tu, T. Y.; Wang, X. H.; Lin, A. Y.-C.; and Chen, P. J. 2014. Journal of hazardous materials 277, 141-149.

DNA methylation in the 5 ' flanking region of cytochrome P450 17 in adult rare minnow Gobiocypris rarus - Tissue difference and effects of 17 alpha-ethinylestradiol and 17 alpha-methyltestoterone exposures.
Liu, Y.; Chen, S.; Liu, S.; Zhang, Y.; Yuan, C.; and Wang, Z. 2014. Comparative

Biochemistry and Physiology C-Toxicology & Pharmacology 162, 16-22.
Short-term treatment of adult male zebrafish (Danio Rerio) with 17alpha-ethinyl estradiol affects the transcription of genes involved in development and male sex differentiation.

Reyhanian Caspillo, N.; Volkova, K.; Hallgren, S.; Olsson, P. E.; and Porsch-Hallstrom, I. 2014. Comparative biochemistry and physiology.Toxicology & pharmacology : CBP 164, 35-42.

Effects of the Synthetic Estrogen 17 alpha-Ethinylestradiol on Aromatase Expression, Reproductive Behavior and Sperm Quality in the Fish Jenynsia multidentata.
Roggio, M.; Guyon, N.; Hued, A.; Ame, M., V; Valdes, M.; Giojalas, L.; Wunderlin, D.; and Bistoni, M. 2014. Bulletin of Environmental Contamination and Toxicology 92, 579-584.

Simultaneous quantification of several classes of antibiotics in water, sediments, and fish muscles by liquid chromatography-tandem mass spectrometry.
Wei, Y.; Zhang, Y.; Xu, J.; Guo, C.; Li, L.; and Fan, W. 2014. Frontiers of Environmental Science & Engineering 8, 357-371.

Transcriptional and Physiological Responses Induced by Binary Mixtures of Drospirenone and Progesterone in Zebrafish (Danio rerio).
Zucchi, S.; Mirbahai, L.; Castiglioni, S.; and Fent, K. 2014. Environmental Science & Technology 48, 3523-3531.

Reproductive biomarkers responses induced by xenoestrogens in the characid fish Astyanax fasciatus inhabiting a South American reservoir: An integrated field and laboratory approach.
Prado, P. S.; Pinheiro, A. P.; Bazzoli, N.; and Rizzo, E. 2014. Environmental research 131, 165-173.

An environmental oestrogen disrupts fish population dynamics through direct and transgenerational effects on survival and fecundity.
Schwindt, A. R.; Winkelman, D. L.; Keteles, K.; Murphy, M.; and Vajda, A. M. 2014. Journal of Applied Ecology 51, 582-591.

Vitellogenin of the northern leopard frog (Rana pipiens): Development of an ELISA assay and evaluation of induction after immersion in xenobiotic estrogens.
Selcer, K. W. and Verbanic, J. D. 2014. Chemosphere 112, 348-354.

Diverse potentielt hormonforstyrrende stoffer/faktorer

Hypothesis-driven weight of evidence analysis to determine potential endocrine activity of MTBE.
de Peyster, A. and Mihaich, E. 2014. Regulatory toxicology and pharmacology : RTP 69, 348-370.

Endocrine disruption effects of long-term exposure to perfluorodecanoic acid (PFDA) and perfluorotridecanoic acid (PFTrDA) in zebrafish (Danio rerio) and related mechanisms.
Jo, A.; Ji, K.; and Choi, K. 2014. Chemosphere 108, 360-366.

Effects of the surfactant polyoxyethylene amine (POEA) on genotoxic, biochemical and physiological parameters of the freshwater teleost Prochilodus lineatus.
Navarro, C. D. C. and Martinez, C. B. R. 2014. Comparative biochemistry and physiology.Toxicology & pharmacology : CBP 165, 83-90.

Short- and long-term responses and recovery of mussels Mytilus edulis exposed to heavy fuel oil no. 6 and styrene.

Ruiz, P.; Ortiz-Zarragoitia, M.; Orbea, A.; Vingen, S.; Hjelle, A.; Baussant, T.; and Cajaraville, M. P. 2014. Ecotoxicology 23, 861-879.

(Eco)toxicological effects of 2,4,7,9-tetramethyl-5-decyne-4,7-diol (TMDD) in zebrafish (Danio rerio) and permanent fish cell cultures.
Vincze, K.; Gehring, M.; and Braunbeck, T. 2014. Environmental Science and Pollution Research 21, 8233-8241.

In Vivo Effects of Environmental Concentrations of Produced Water on the Reproductive Function of Polar Cod (Boreogadus saida).
Geraudie, P.; Nahrgang, J.; Forget-Leray, J.; Minier, C.; and Camus, L. 2014. Journal of Toxicology and Environmental Health-Part A-Current Issues 77, 557-573.

Eksponering i miljøet (ferskvand, saltvand, spildevand, sediment mm.)

Are In Vitro Methods for the Detection of Endocrine Potentials in the Aquatic Environment Predictive for In Vivo Effects? Outcomes of the Projects SchussenAktiv and SchussenAktiv plus in the Lake Constance Area, Germany.
Henneberg, A.; Bender, K.; Blaha, L.; Giebner, S.; Kuch, B.; Koehler, H. R.; Maier, D.; Oehlmann, J.; Richter, D.; Scheurer, M.; Schulte-Oehlmann, U.; Sieratowicz, A.; Ziebart, S.; and Triebskorn, R. 2014. Plos One 9.

Integrated assessment of runoff from livestock farming operations: Analytical chemistry, in vitro bioassays, and in vivo fish exposures.
Cavallin, J. E.; Durhan, E. J.; Evans, N.; Jensen, K. M.; Kahl, M. D.; Kolpin, D. W.; Kolodziej, E. P.; Foreman, W. T.; LaLone, C. A.; Makynen, E. A.; Seidl, S. M.; Thomas, L. M.; Villeneuve, D. L.; Weberg, M. A.; Wilson, V. S.; and Ankley, G. T. 2014. Environmental toxicology and chemistry / SETAC 33, 1849-1857.

Diversity of the molecular responses to separate wastewater effluents in freshwater mussels.
Falfushynska, H. I.; Gnatyshyna, L. L.; Osadchuk, O. Y.; Farkas, A.; Vehovszky, A.; Carpenter, D. O.; Gyori, J.; and Stoliar, O. B. 2014. Comparative Biochemistry and Physiology C-Toxicology & Pharmacology 164, 51-58.

Effect-directed analysis for estrogenic compounds in a fluvial sediment sample using transgenic cyp19a1b-GFP zebrafish embryos.
Fetter, E.; Krauss, M.; Brion, F.; Kah, O.; Scholz, S.; and Brack, W. 2014. Aquatic toxicology (Amsterdam, Netherlands) 154, 221-229.

Evidence of altered fertility in female roach (Rutilus rutilus) from the River Seine (France).
Gerbron, M.; Geraudie, P.; Fernandes, D.; Rotchell, J.; Porte, C.; and Minier, C. 2014. Environmental Pollution 191, 58-62.

May sediment contamination be xenoestrogenic to benthic fish? A case study with Solea senegalensis.
Goncalves, C.; Martins, M.; Diniz, M. S.; Costa, M. H.; Caeiro, S.; and Costa, P. M. 2014. Marine environmental research 99, 170-178.

An Integrated Approach Combining Chemical Analysis and an In Vivo Bioassay to Assess the Estrogenic Potency of a Municipal Solid Waste Landfill Leachate in Qingdao.
Gong, Y.; Tian, H.; Wang, L.; Yu, S.; and Ru, S. 2014. Plos One 9,

Assessing reproductive and endocrine parameters in male largescale suckers (Catostomus macrocheilus) along a contaminant gradient in the lower Columbia River, USA.
Jenkins, J.; Olivier, H.; Draugelis-Dale, R.; Eilts, B.; Torres, L.; Patino, R.; Nilsen, E.; and Goodbred, S. 2014. Science of the Total Environment 484, 365-378.

Invertebrates as indicators for chemical stress in sewage-influenced stream systems: Toxic and endocrine effects in gammarids and reactions at the community level in two tributaries of Lake Constance, Schussen and Argen.
Katharina, P.; Jonas, G.; Koehler, H. R.; Karl, W.; and Rita, T. 2014. Ecotoxicology and Environmental Safety 106, 115-125.

Histopathological findings in Gonads of Xenopus laevis from Central Chile.
Larenas, J.; Jaque, M.; Bustos-Lopez, C.; Robles, C.; Lobos, G.; Mattar, C.; and Valdovinos, C. E. 2014. Gayana 78, 70-73.

Spatial and Temporal Patterns of Endocrine Active Chemicals in Small Streams Indicate Differential Exposure to Aquatic Organisms(1).
Lee, K.; Barber, L.; and Schoenfuss, H. 2014. Journal of the American Water Resources Association 50, 401-419.

Methodology for profiling anti-androgen mixtures in river water using multiple passive samplers and bioassay-directed analyses.
Liscio, C.; Abdul-Sada, A.; Al-Salhi, R.; Ramsey, M. H.; and Hill, E. M. 2014. Water Research 57, 258-269.

On-Site Exposure to Treated Wastewater Effluent Has Subtle Effects on Male Fathead Minnows and Pronounced Effects on Carp(1).
Minarik, T. A.; Vick, J. A.; Schultz, M. M.; Bartell, S. E.; Martinovic-Weigelt, D.; Rearick, D. C.; and Schoenfuss, H. L. 2014. Journal of the American Water Resources Association 50, 358-375.

Developmental Impairment in Eurasian Dipper Nestlings Exposed to Urban Stream Pollutants.
Morrissey, C. A.; Stanton, D. W.; Tyler, C. R.; Pereira, M.; Newton, J.; Durance, I.; and Ormerod, S. J. 2014. Environmental Toxicology and Chemistry 33, 1315-1323.

Contaminants of legacy and emerging concern in largescale suckers (Catostomus macrocheilus) and the foodweb in the lower Columbia River, Oregon and Washington, USA.
Nilsen, E.; Zaugg, S.; Alvarez, D.; Morace, J.; Waite, I.; Counihan, T.; Hardiman, J.; Torres, L.; Patino, R.; Mesa, M.; and Grove, R. 2014. Science of the Total Environment 484, 344-352.

Screening of endocrine disruption activity in sediments from the Uruguay River.
Rivas-Rivera, N.; Eguren, G.; Carrasco-Letelier, L.; and Munkittrick, K. R. 2014. Ecotoxicology 23, 1137-1142.

GC-MS determination of bisphenol A and alkylphenol ethoxylates in river water from India and their ecotoxicological risk assessment.
Selvaraj, K. K.; Shanmugam, G.; Sampath, S.; Larsson, D.; and Ramaswamy, B. R. 2014. Ecotoxicology and Environmental Safety 99, 13-20.

Application of passive sampling in assessing the occurrence and risk of antibiotics and endocrine disrupting chemicals in the Yangtze Estuary, China.
Shi, X.; Zhou, J. L.; Zhao, H.; Hou, L.; and Yang, Y. 2014. Chemosphere 111, 344-351.

Histopathological survey of potential biomarkers for the assessment of contaminant related biological effects in species of fish and shellfish collected from Kuwait Bay, Arabian Gulf.
Stentiford, G.; Massoud, M.; Al-Mudhhi, S.; Al-Sarawi, M.; Al-Enezi, M.; and Lyons, B. 2014. Marine environmental research 98, 60-67.

Optimization of Effects-Assessment of Greenside Darter (Etheostoma Blennioides) Exposed to Tertiary Treated Municipal Wastewater Based on Seasonal Changes of Reproductive Endpoints.
Tetreault, G. R.; Bennett, C. J.; Servos, M. R.; and McMaster, M. E. 2014. Environmental Toxicology and Chemistry 33, 1077-1089.

Distribution and bioconcentration of endocrine disrupting chemicals in surface water and fish bile of the Pearl River Delta, South China.
Yang, J.; Li, H.; Ran, Y.; and Chan, K. 2014. Chemosphere 107, 439-446.

Intersex (Testicular Oocytes) in Largemouth Bass (Micropterus Salmoides) on the Delmarva Peninsula, Usa.
Yonkos, L. T.; Friedel, E. A.; and Fisher, D. J. 2014. Environmental Toxicology and Chemistry 33, 1163-1169.

Assessment of Endocrine-Disrupting Chemicals Attenuation in A Coastal Plain Stream Prior to Wastewater Treatment Plant Closure1.
Bradley, P. M. and Journey, C. A. 2014. Journal of the American Water Resources Association 50, 388-400.

Complete feminization of catfish by feeding Limnodilus, an annelid worm collected in contaminated streams.
Dong, R. R.; Yang, S. J.; Feng, R. J.; Fang, L. L.; Sun, Y. L.; Zhang, Y. G.; Xie, X. J.; and Wang, D. S. 2014. Environmental research 133, 371-379.

Analysis of hepatic deiodinase 2 mRNA levels in natural fish lake populations exposed to different levels of putative thyroid disrupters.
Jarque, S.; Bosch, C.; Casado, M.; Grimalt, J. O.; Raldua, D.; and Pina, B. 2014. Environmental Pollution 187, 210-213.

Early warning signs of endocrine disruption in adult fish from the ingestion of polyethylene with and without sorbed chemical pollutants from the marine environment.
Rochman, C. M.; Kurobe, T.; Flores, I.; and Teh, S. J. 2014. The Science of the total environment 493, 656-661.

Undersøgelser med flere stoffer fra flere af de ovennævnte kategorier

Comparative responses to endocrine disrupting compounds in early life stages of Atlantic salmon, Salmo salar.
Duffy, T.; Iwanowicz, L.; and McCormick, S. 2014. Aquatic Toxicology 152, 1-10.

Characterize and Gene Expression of Heat Shock Protein 90 in Marine Crab Charybdis japonica following Bisphenol A and 4-Nonylphenol Exposures.
Park, K. and Kwak, I. S. 2014. Environmental health and toxicology 29, e2014002-e2014002.

Effects of Bisphenol A and Fadrozole Exposures on cyp19a1 Expression in the Murray Rainbowfish, Melanotaenia fluviatilis.
Shanthanagouda, A. H.; Nugegoda, D.; and Patil, J. G. 2014. Archives of environmental contamination and toxicology 67, 270-280.

Effects of trilostane and fipronil on the reproductive axis in an early life stage of the Japanese medaka (Oryzias latipes).
Sun, L.; Jin, R.; Peng, Z.; Zhou, Q.; Qian, H.; and Fu, Z. 2014. Ecotoxicology 23, 1044-1054.

Effects of triclocarban, N,N-diethyl-meta-toluamide, and a mixture of pharmaceuticals and personal care products on fathead minnows (Pimephales promelas).
Zenobio, J. E.; Sanchez, B. C.; Archuleta, L. C.; and Sepulveda, M. S. 2014.
Environmental Toxicology and Chemistry 33, 910-919.

Characterization of the small heat shock protein Hsp27 gene in Chironomus riparius (Diptera) and its expression profile in response to temperature changes and xenobiotic exposures.
Martinez-Paz, P.; Morales, M.; Martin, R.; Luis Martinez-Guitarte, J.; and Morcillo, G. 2014. Cell Stress & Chaperones 19, 529-540.

Cloning of circadian rhythmic pathway genes and perturbation of oscillation patterns in endocrine disrupting chemicals (EDCs)-exposed mangrove killifish kryptolebias rnarrnoratus.
Rhee, J. S.; Kim, B. M.; Lee, B. Y.; Hwang, U. K.; Lee, Y. S.; and Lee, J. S. 2014.
Comparative Biochemistry and Physiology C-Toxicology & Pharmacology 164, 11-20.

Identification and mRNA expression of two 17 beta-hydroxysteroid dehydrogenase genes in the marine mussel Mytilus galloprovincialis following exposure to endocrine disrupting chemicals.
Zhang, Y.; Wang, Q.; Ji, Y.; Zhang, Q.; Wu, H.; Xie, J.; and Zhao, J. 2014. Environmental Toxicology and Pharmacology 37, 1243-1255.

Testmetoder, modelorganismer, endpoints, MOA og lovgivning/regulering

Population relevance of toxicant mediated changes in sex ratio in fish: An assessment using an individual-based zebrafish (Danio rerio) model.
Hazlerigg, C. R.; Tyler, C. R.; Lorenzen, K.; Wheeler, J. R.; and Thorbek, P. 2014. Ecological Modelling 280, 76-88.

Evaluation of yolk protein levels as estrogenic biomarker I bivalves; comparison of the alkali-labile phosphate method (ALP) and a species-specific immunoassay (ELISA).
Morthorst, J.; Holbech, H.; Jeppesen, M.; Kinnberg, K. L.; Pedersen, K. L. and Bjerregaard, P. 2014. Comparative Biochemistry and Physiology C - Toxicology & Pharmacology 166, 88-95.

Biochemical and proteomic characterization of haemolymoh serum reveals the origin of the alkali-labile phosphate (ALP) in mussel (*Mytilus galloprovincialis*).
Oliveri, C.; Peric, L.; Sforzini, S.; Banni, M.; Viarengo, A.; Cavaletto, M. and Marsano, F. 2014. Comparative Biochemistry and Physiology D – Genomics and Proteomics 11, 29-36.

Transcriptional analysis of endocrine disruption using zebrafish and massively parallel sequencing.
Baker, M. E. and Hardiman, G. 2014. Journal of molecular endocrinology 52, R241-R256.

Relevance Weighting of Tier 1 Endocrine Screening Endpoints by Rank Order.
Borgert, C. J.; Stuchal, L. D.; Mihaich, E. M.; Becker, R. A.; Bentley, K. S.; Brausch, J. M.; Coady, K.; Geter, D. R.; Gordon, E.; Guiney, P. D.; Hess, F.; Holmes, C. M.; LeBaron, M. J.; Levine, S.; Marty, S.; Mukhi, S.; Neal, B. H.; Ortego, L. S.; Saltmiras, D. A.; Snajdr, S.; Staveley, J.; and Tobia, A. 2014. Birth Defects Research Part B-Developmental and Reproductive Toxicology 101, 90-113.

To Bind or Not To Bind: The Taxonomic Scope of Nuclear Receptor Mediated Endocrine Disruption in Invertebrate Phyla.
Castro, L. and Santos, M. M. 2014. Environmental Science & Technology 48, 5361-5363.

Generation and characterization of gsu alpha:EGFP transgenic zebrafish for evaluating endocrine-disrupting effects.
Cheng, X.; Chen, X.; Jin, X.; He, J.; and Yin, Z. 2014. Toxicology and Applied Pharmacology 278, 78-84.

Modulation of estrogen causes disruption of craniofacial chondrogenesis in Danio rerio.
Cohen, S. P.; LaChappelle, A. R.; Walker, B. S.; and Lassiter, C. S. 2014. Aquatic Toxicology 152, 113-120.

Temporal Dynamics of Oocyte Growth and Vitellogenin Gene Expression in Zebrafish (Danio Rerio).
Connolly, M. H.; Dutkosky, R. M.; Heah, T. P.; Sayler, G. S.; and Henry, T. B. 2014. Zebrafish 11, 107-114.

Biomarkers of endocrine disruption in juveniles and females of the estuarine fish Pomatoschistus microps.
Dias, L. C.; Soares, A. M., V; Ferreira, A. L.; Santos, C. S.; and Monteiro, M. S. 2014. Marine Pollution Bulletin 84, 314-321.

Precision-cut liver slices of Atlantic cod (Gadus morhua): an in vitro system for studying the effects of environmental contaminants.
Eide, M.; Karlsen, O. A.; Kryvi, H.; Olsvik, P. A.; and Goksoyr, A. 2014. Aquatic toxicology (Amsterdam, Netherlands) 153, 110-115.

Fathead Minnow and Bluegill Sunfish Life-Stage Responses to 17 Beta-Estradiol Exposure in Outdoor Mesocosms1.
Elliott, S. M.; Kiesling, R. L.; Jorgenson, Z. G.; Rearick, D. C.; Schoenfuss, H. L.; Fredricks, K. T.; and Gaikowski, M. P. 2014. Journal of the American Water Resources Association 50, 376-387.

An inter-laboratory study on the variability in measured concentrations of 17 beta-estradiol, testosterone, and 11-ketotestosterone in white sucker: Implications and recommendations.
Feswick, A.; Ankley, G. T.; Denslow, N.; Ellestad, L. E.; Fuzzen, M.; Jensen, K. M.; Kroll, K.; Lister, A.; MacLatchy, D. L.; McMaster, M. E.; Orlando, E. F.; Servos, M. R.; Tetreault, G. R.; Van Den Heuvel, M. R.; and Munkittrick, K. R. 2014. Environmental Toxicology and Chemistry 33, 847-857.

Identification of an estrogen receptor gene in the natural freshwater snail Bithynia tentaculata.
Hultin, C. L.; Hallgren, P.; Persson, A.; and Hansson, M. C. 2014. Gene 540, 26-31.
Pyruvate carboxylase as a sensitive protein biomarker for exogenous steroid chemicals.
Liang, X.; Martyniuk, C. J.; Cheng, G.; Zha, J.; and Wang, Z. 2014. Environmental Pollution 189, 184-193.

Variations of estradiol-17 beta and testosterone levels correlated with gametogenesis in the gonad of Zhikong scallop (Chlamys farreri) during annual reproductive cycle.
Liu, J.; Zhang, Z.; Zhang, L.; Liu, X.; Yang, D.; and Ma, X. 2014. Canadian Journal of Zoology-Revue Canadienne de Zoologie 92, 195-204.

Differing Species Responsiveness of Estrogenic Contaminants in Fish Is Conferred by the Ligand Binding Domain of the Estrogen Receptor.
Miyagawa, S.; Lange, A.; Hirakawa, I.; Tohyama, S.; Ogino, Y.; Mizutani, T.; Kagami, Y.; Kusano, T.; Ihara, M.; Tanaka, H.; Tatarazako, N.; Ohta, Y.; Katsu, Y.; Tyler, C. R.; and Iguchi, T. 2014. Environmental Science & Technology 48, 5254-5263.

Vitellogenin of Fujian oyster, Crassostrea angulata: Synthesized in the ovary and controlled by estradiol-17 beta.
Ni, J.; Zeng, Z.; Kong, D.; Hou, L.; Huang, H.; and Ke, C. 2014. General and Comparative Endocrinology 202, 35-43.

Vitellogenin is not an appropriate biomarker of feminisation in a crustacean.
Short, S.; Yang, G.; Kille, P.; and Ford, A. T. 2014. Aquatic toxicology (Amsterdam, Netherlands) 153, 89-97.

The nuclear receptor gene family in the Pacific oyster, Crassostrea gigas, contains a novel subfamily group.
Vogeler, S.; Galloway, T. S.; Lyons, B. P.; and Bean, T. P. 2014. Bmc Genomics 15.