

Stegeman Laboratory: Selected publications since 2004

==2010==

Tarrant AM, Stegeman JJ, Verslycke T. Altered gene expression associated with epizootic shell disease in the American lobster, *Homarus americanus*. *Fish Shellfish Immunol*. 2010 Aug 20. [Epub ahead of print]

Esler D, Trust KA, Ballachey BE, Iverson SA, Lewis TL, Rizzolo DJ, Mulcahy DM, Miles AK, Woodin BR, Stegeman JJ, Henderson JD, Wilson BW. Cytochrome P4501A biomarker indication of oil exposure in harlequin ducks up to 20 years after the Exxon Valdez oil spill. (2010) *Environ Toxicol Chem*. 29(5):1138-45.

K. E. Whalen, J. V. Goldstone, M. E. Hahn. (2010) Cytochrome P450 diversity and induction by gorgonian allelochemicals in the marine gastropod *Cyphoma gibbosum*. *Comp Biochem. Physiol*. 52(3):288-300

Teraoka H, Ogawa A, Kubota A, Stegeman JJ, Peterson RE, Hiraga T. Malformation of certain brain blood vessels caused by TCDD activation of Ahr2/Arnt1 signaling in developing zebrafish. (2010) *Aquat Toxicol*. 99(2):241-7.

M. E. Jönsson, K. Gao, J. A. Olsson, J. V. Goldstone, I. Brandt. (2010) Induction patterns of new CYP1 genes in environmentally exposed rainbow trout. *Aquatic Toxicology*. 98(4) 311-321.

M. C. Celander, J. V. Goldstone, N. D. Denslow, T. Iguchi, P. Kille, R. D. Meyerhoff, B. A. Smith, T. H. Hutchinson, J. R. Wheeler. Species Extrapolation for the 21st Century. *Environ Toxicol Chem*. (in press)

J. J. Stegeman, J. V. Goldstone, M. E. Hahn. (2010) Perspectives on zebrafish as a model in environmental toxicology. In *Zebrafish*. S. F. Perry, M. Ekker, A. P. Farrell C. J. Brauner (eds). Elsevier.

L. Behrendt, M. E. Jönsson, J. V. Goldstone, and J. J. Stegeman. (2010) Induction of cytochrome P450 1 genes and stress response genes in zebrafish embryos exposed to ultraviolet radiation. *Aquat Toxicol*. 98(1), 74-82

Wilson JY, Moore MJ, Stegeman JJ. Catalytic and immunochemical detection of hepatic and extrahepatic microsomal cytochrome P450 1A1 (CYP1A1) in white-sided dolphin (*Lagenorhynchus acutus*). (2010) *Aquat Toxicol*. 96(3):216-24.

== 2009 ==

Jönsson ME, Franks DG, Woodin BR, Jenny MJ, Garrick RA, Behrendt L, Hahn ME, Stegeman JJ. The tryptophan photoproduct 6-formylindolo[3,2-b]carbazole (FICZ) binds multiple AHRs and induces multiple CYP1 genes via AHR2 in zebrafish. (2009) *Chem Biol Interact*. 181(3):447-54.

J. Zannette, J. V. Goldstone, Afonso C. D. Bairy, and J. J. Stegeman. New cytochrome P450 genes in bivalves – Identification of CYPs from mussel and oyster ESTs. *Marine Environmental Research* (2009) Epub 17 Nov.

J. V. Goldstone, M. E. , L. Behrendt, B. R. Woodin, M. J. Jenny, D. R. Nelson and J. J. Stegeman. (2009). Cytochrome P450 1D1: a novel CYP1A-related gene that is not transcriptionally activated by PCB126 or TCDD. *Arch Biochem Biophys*, 482 (1-2), 7-16. PMC2661202.

Jenny MJ, Karchner SI, Franks DG, Woodin BR, Stegeman JJ, Hahn ME. Distinct roles of two zebrafish AHR repressors (AHRRa and AHRRb) in embryonic development and regulating the response to 2,3,7,8-tetrachlorodibenzo-p-dioxin. (2009) *Toxicol Sci*. 110(2):426-41.

M. E. Jönsson, D. G. Franks, B. R. Woodin, M. J. Jenny, R. A. Garrick, L. Behrendt, M. E. Hahn *Chem Biol Interact*, 181 (3), 447-54. PMC2838191 and J. J. Stegeman. (2009). The tryptophan photoproduct 6-formylindolo[3,2-b]carbazole (FICZ) binds multiple AHRs and induces multiple CYP1 genes via AHR2 in zebrafish.

J. Y. Wilson, M. J. Moore and J. J. Stegeman. (2010). Catalytic and immunochemical detection of hepatic and extrahepatic microsomal cytochrome P450 1A1 (CYP1A1) in white-sided dolphin (*Lagenorhynchus acutus*). *Aquat Toxicol*, 96 (3) 216-224 PMC2815115.

J. Zannette, M. J. Jenny, J. V. Goldstone, B. R. Woodin, L. A. Watka, A. C. Bairy and J. J. Stegeman. (2009). New cytochrome P450 1B1, 1C2 and 1D1 genes in the killifish *Fundulus heteroclitus*: Basal expression and response of five killifish CYP1s to the AHR agonist PCB126. *Aquat Toxicol*, 93 (4), 234-43. PMC2761021.

==2008==

Goldstone JV, Stegeman JJ. 2008. Gene structure of the novel cytochrome P4501D1 genes in stickleback (*Gasterosteus aculeatus*) and medaka (*Oryzias latipes*). *Mar Environ Res*. 2008 66:19-20.

Laws EA, Fleming LE, Stegeman JJ. (2008) Centers for Oceans and Human Health: contributions to an emerging discipline. Introduction. *Environ Health*. 7 Suppl 2:S1.

Montie EW, Fair PA, Bossart GD, Mitchum GB, Houde M, Muir DC, Letcher RJ, McFee WE, Starczak VR, Stegeman JJ, Hahn ME. Cytochrome P4501A1 expression, polychlorinated biphenyls and hydroxylated metabolites, and adipocyte size of bottlenose dolphins from the Southeast United States. (2008) *Aquat Toxicol*. 86(3):397-412.

==2007==

Burnett KG, Bain LJ, Baldwin WS, Callard GV, Cohen S, Di Giulio RT, Evans DH, Gomez-Chiarri M, Hahn ME, Hoover CA, Karchner SI, Katoh F, Maclatchy DL, Marshall WS, Meyer JN, Nacci DE, Oleksiak MF, Rees BB, Singer TD, Stegeman JJ, Towle DW, Van Veld PA, Vogelbein WK, Whitehead A, Winn RN, Crawford DL. *Fundulus* as the Premier Teleost Model in Environmental Biology: Opportunities for New Insights Using Genomics. *Comp Biochem Physiol Part D Genomics Proteomics*. 2007 Dec;2(4):257-286.

Jonsson ME, Jenny MJ, Woodin BR, Hahn ME, Stegeman JJ. Role of AHR2 in the expression of novel cytochrome P450 1 family genes, cell cycle genes, and morphological defects in developing zebrafish exposed to 3,3',4,4',5-pentachlorobiphenyl or 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Toxicol Sci*. 2007 Nov;100(1):180-93. PMID17686920.

Prasad JC, Goldstone JV, Camacho CJ, Vajda S, Stegeman JJ. Ensemble modeling of substrate binding to cytochromes P450: analysis of catalytic differences between CYP1A orthologs. *Biochemistry*. 2007 Mar 13;46(10):2640-54

==2006==

Goldstone JV, Hamdoun A, Cole BJ, Howard-Ashby M, Nebert DW, Scally M, Dean M, Epel D, Hahn ME, Stegeman JJ. (2006) The chemical defensome: environmental sensing and response genes in the *Strongylocentrotus purpuratus* genome. *Dev Biol*. 300(1):366-84.

Verslycke T, Goldstone JV, Stegeman JJ. Isolation and phylogeny of novel cytochrome P450 genes from tunicates (*Ciona* spp.): a CYP3 line in early deuterostomes? *Mol Phylogenet Evol*. 200 Sep;40(3):760-71.

Kubota A, Iwata H, Goldstone HM, Kim EY, Stegeman JJ, Tanabe S. Cytochrome P450 1A4 and 1A5 in common cormorant (*Phalacrocorax carbo*): evolutionary relationships and functional implications associated with dioxin and related compounds. *Toxicol Sci*. 2006 Aug;92(2):394-408. PMID16679348.

Stuchal LD, Kleinow KM, Stegeman JJ, James MO. Demethylation of the pesticide methoxychlor in liver and intestine from untreated, methoxychlor-treated, and 3-methylcholanthrene-treated channel catfish (*Ictalurus punctatus*): evidence for roles of CYP1 and CYP3A family isozymes. *Drug Metab Dispos*. 2006 Jun;34(6):932-8. PMID16510540.

Malins DC, Anderson KM, Stegeman JJ, Jaruga P, Green VM, Gilman NK, Dizdaroglu M. Biomarkers signal contaminant effects on the organs of English sole (*Parophrys vetulus*) from Puget Sound. *Environ Health Perspect*. 2006 Jun;114(6):823-9. PMID16759979; PubMed Central PMCID: PMC1480518.

Goldstone HM, Stegeman JJ. A revised evolutionary history of the CYP1A subfamily: gene duplication, gene conversion, and positive selection. *J Mol Evol*. 2006 Jun;62(6):708-17. Epub 2006 Apr 28. PMID16752211.

Dong W, Muramoto W, Nagai Y, Takehana K, Stegeman JJ, Teraoka H, Hiraga T. Retinal neuronal cell is a toxicological target of tributyltin in developing zebrafish. *J Vet Med Sci*. 2006 Jun;68(6):573-9. PMID16820714.

Schlezingler JJ, Struntz WD, Goldstone JV, Stegeman JJ. Uncoupling of cytochrome P450 1A and stimulation of reactive oxygen species production by co-planar polychlorinated biphenyl congeners. *Aquat Toxicol*. 2006 May 25;77(4):422-32. PMID16500718.

Schober W, Luch A, Soballa VJ, Raab G, Stegeman JJ, Doehmer J, Jacob J, Seidel A. On the species-specific biotransformation of dibenzo[a,h]pyrene. *Chem Biol Interact*. 2006 May 15;161(1):37-48. PMID16581046.

Matsuo AY, Woodin BR, Reddy CM, Val AL, Stegeman JJ. Humic substances and crude oil induce cytochrome P450 1A expression in the Amazonian fish species *Colossoma macropomum*. *Environ Sci Technol*. 2006 Apr 15;40(8):2851-8. PMID16683634. (Tambaqui).

Teraoka H, Urakawa S, Nanba S, Nagai Y, Dong W, Imagawa T, Tanguay RL, Svoboda K, Handley-Goldstone HM, Stegeman JJ, Hiraga T. Muscular contractions in the zebrafish embryo are necessary to reveal thiuram-induced notochord distortions. *Toxicol Appl Pharmacol*. 2006 Apr 1;212(1):24-34. PMID16051294.

Garrick RA, Woodin BR, Wilson JY, Middlebrooks BL, Stegeman JJ. Cytochrome P4501A is induced in endothelial cell lines from the kidney and lung of the bottlenose dolphin, *Tursiops truncatus*. *Aquat Toxicol*. 2006 Mar 10;76(3-4):295-305. PMID16290286.

Goldstone HM, Stegeman JJ. Molecular mechanisms of 2,3,7,8-tetrachlorodibenzo-p-dioxin cardiovascular embryotoxicity. *Drug Metab Rev.* 2006;38(1-2):261-89. PMID16684661.

==2005==

Wilson JY, Cooke SR, Moore MJ, Martineau D, Mikaelian I, Metner DA, Lockhart WL, Stegeman JJ. Systemic effects of arctic pollutants in beluga whales indicated by CYP1A1 expression. *Environ Health Perspect.* 2005 Nov;113(11):1594-9. PMCID: PMC1310924.

Godard CA, Goldstone JV, Said MR, Dickerson RL, Woodin BR, Stegeman JJ. The new vertebrate CYP1C family: cloning of new subfamily members and phylogenetic analysis. *Biochem Biophys Res Commun.* 2005 Jun 17;331(4):1016-24. PMID15882979.

Handley-Goldstone HM, Grow MW, Stegeman JJ. Cardiovascular gene expression profiles of dioxin exposure in zebrafish embryos. *Toxicol Sci.* 2005 May;85(1):683-93. Erratum in: *Toxicol Sci.* 2005 Jun;85(2):1066. PMID15716485.

Garrick RA, Woodin BR, Stegeman JJ. Cytochrome p4501a induced differentially in endothelial cells cultured from different organs of *Anguilla rostrata*. *In Vitro Cell Dev Biol Anim.* 2005 Jan-Feb;41(1-2):57-63. PMID15926861.

Page DS, Huggett RJ, Stegeman JJ, Parker KR, Woodin B, Brown JS, Bence AE. Polycyclic aromatic hydrocarbon sources related to biomarker levels in fish from Prince William Sound and the Gulf of Alaska. *Environ Sci Technol.* 2004 Oct 1;38(19):4928-36. PMID15506182.

Powell WH, Morrison HG, Weil EJ, Karchner SI, Sogin ML, Stegeman JJ, Hahn ME. Cloning and analysis of the CYP1A promoter from the atlantic killifish (*Fundulus heteroclitus*). *Mar Environ Res.* 2004 Aug-Dec;58(2-5):119-24. PMID15178023.

Last updated: August 11, 2011

Copyright ©2007 Woods Hole Oceanographic Institution, All Rights Reserved.

Mail: Woods Hole Oceanographic Institution, 266 Woods Hole Road, Woods Hole, MA 02543, USA.

E-Contact: info@whoi.edu; press relations: media@whoi.edu, tel. (508) 457-2000

Problems or questions about the site, please contact webdev@whoi.edu