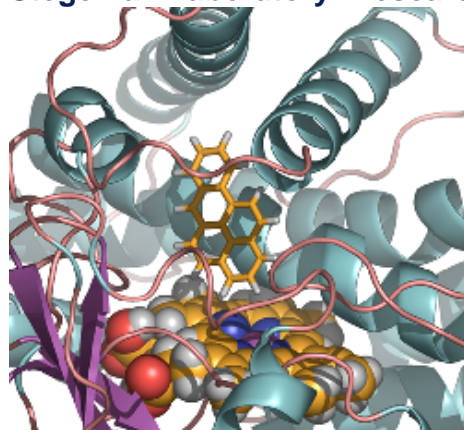


Stegeman Laboratory: Research



[Enlarge image](#)

A fish homology model of CYP1A showing benzo[a]pyrene (sticks) computationally docked into the active site above the catalytic heme (spheres).

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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

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Research

The research interests of the Stegeman Lab include biochemical toxicology and the metabolism and effects of pollutants and natural products, in marine vertebrates and invertebrates, including deep sea animals.

Our major focus is the biochemistry, evolution, and regulation of [cytochrome P450](#) enzymes and their roles in biochemical toxicology. We are interested in the metabolism and biological effects of xenobiotics such as PCBs and benzo(a)pyrene, and natural products, including steroid hormones, in aquatic animals. We are particularly interested in how the structure-function relationships involved in the effects of these chemicals are related to the susceptibility of developing animals.

We use molecular techniques including quantitative PCR and gene expression microarrays, as well as biochemical analyses of microsomal and expressed proteins to investigate the regulation and function of cytochromes P450 in a wide variety of animals, from vertebrates to mollusks to anemones.