

## Zebrafish Vitellogenin ELISA Kit

**Detection of the egg yolk protein vitellogenin (Vtg)** in juvenile and male fish is a simple and sensitive biomarker for endocrine disrupting chemicals (EDCs) with estrogenic effects in fish. Measuring Vtg has become accepted as a routine screening test for estrogenic effects of EDCs in fish. This quantitative Vtg Enzyme-Linked Immunosorbent Assay (ELISA) can easily be combined with standard fish tests according to OECD Guidelines for Testing of Chemicals.



ZEBRAFISH (PHOTO: SARS CENTRE)

**The quantitative Zebrafish Vtg ELISA Kit** is developed for a standard OECD test species used in many ecotoxicological testing laboratories throughout the world, the zebrafish (*Danio rerio*). The assay is optimised for analysis of whole body homogenate samples, but can also be used for other sample types (e.g. blood plasma).

**The analysis is based on a sandwich assay** utilizing specific binding between antibodies and Vtg. Microtiter plates are **pre-coated** with a Vtg-specific capture antibody that binds to Vtg in samples added to the wells. Unbound components are washed out, and a different Vtg-specific antibody (detecting antibody) is added, creating a sandwich of antibodies and Vtg. Unbound detecting antibody is washed out, and an enzyme-labelled secondary antibody is added. After a last wash, the enzyme activity is determined by adding a substrate which gives a coloured product. The enzyme activity (colour intensity) is directly proportional to the concentration of Vtg in the sample, and the assay is calibrated using purified Vtg from zebrafish as standard.

**The assay is highly sensitive and robust.** The working range of the Vtg standard is normally 0.49–62.5 ng Vtg/ml, and the intra- and inter-assay coefficients of variation (%CV) are between 3.6 and 21% within the working range.

**The Zebrafish Vtg ELISA Kit comes in two sizes**, with 96 and 480 wells (1 and 5 plates). The kit contains pre-coated microtiter plates, zebrafish Vtg standard, antibodies and reagents necessary for running the assay, as well as an instructive protocol.

