

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:SARSCENTRE)

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.

