

Research project IZSve 02/14

The antibody response against betanodavirus in sea bass: development of advanced serological assays

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Betanodavirus is the causative agent of Viral Encephalopathy and Retinopathy (VER), a severe neuropathological disease affecting fish worldwide. A number of economically relevant fish species have proven to be susceptible to VER. Above all, European sea bass (*Dicentrarchus labrax*) is considered as being the VER target species, suffering high mortality ranging from 30-60% in sea cages to 90-100% in hatcheries. Despite the economic importance of VER, limited knowledge is available on its pathogenesis, as well as on the immune response of both infected and vaccinated animals. The availability of reliable serology tests is critical to shed light onto fish humoral response against betanodavirus and to evaluate the degree of protection elicited by candidate vaccines, but also represents a non-invasive diagnostic alternative for broodstock testing.

The proposed project aims at developing innovative serological assays for the detection of antibodies against betanodavirus in sea bass sera samples. The performances of different serological assays will be also compared using a panel of sea bass test-antisera (A/S) against diverse betanodavirus serotypes.