

Fishes are an extremely diverse group that live in the most extreme and fluctuating aquatic environments through unique morphological, physiological, and biochemical adaptations. Like other animals, they have developed antioxidant defenses designed to counteract oxidative stress as well as being a system for repairing molecules.

Despite the extensive literature and research attempts regarding antioxidant machinery on biotic and abiotic factors, such as phylogenetic position, age, feeding behavior, environmental factors, presence of xenobiotics, etc., the data on the regulation of antioxidant defenses in fish are still limited at genetic and molecular levels. It is believed that a greater understanding of the genetic and molecular regulation of antioxidant defenses can provide a clue to restoring normal responses to oxidative damage in fish.

This Special Issue will deal with reports that involve the latest research findings on molecular and genetic regulation of fish antioxidant defenses against oxidative stress in fish farming, and also welcomes papers on the genomics, epigenomics, transcriptomics, and proteomics related to fish antioxidant defenses.