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thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-analysis-biomarkers-microplastic-ingestion-marine-fish-compa-et-al-2024-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-analysis-biomarkers-microplastic-ingestion-marine-fish-compa-et-al-2024.jpg{/rokbox}

Montserrat Compa, Xavier Capó, **Carme Alomar**, **Salud Deudero**, Antoni Sureda, 2024. [**A meta-analysis of potential biomarkers associated with microplastic ingestion in marine fish**](#)

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Abstract: Over the past decade, global reports have shown a rise in the harmful effects of microplastics (MPs) on marine fish. This study analysed marine species' biochemical biomarker responses to microplastic exposure, finding that MPs can induce oxidative stress in marine fish through meta-regression results. Overall, exposure to MPs resulted in the activation of antioxidant defence mechanisms, such as superoxide dismutase, catalase and glutathione reductase, detoxification enzymes such as glutathione-S-transferase, the detection of malondialdehyde, and inhibition of acetylcholinesterase. Moreover, results highlight oxidative stress biomarkers were activated in wild species that had ingested MPs, indicating potential harm to marine fish, as confirmed in experimental studies. Furthermore, even though MPs' exposure is better regulated in an experimental setting, it is challenging to replicate actual exposure and environmental factors. The study's findings show the need for more investigation into the hazardous consequences of exposure to environmental MPs on species surveyed in the maritime environment.

Keywords: Oxidative stress, Biomarkers, Antioxidant enzyme, Detoxification, Plastic polymers