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Alomar

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[Interlaboratory comparison of microplastic extraction methods from marine biota tissues: A harmonization exercise of the Plastic Busters MPAs project.](#)

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Abstract: In the framework of the Plastic Busters MPAs project, a harmonization exercise on two methods of microplastic extraction from biological samples i.e. 15% H₂O₂ digestion and 10% KOH digestion was carried out. The two methods were tested in four laboratories on fish gastrointestinal tracts and mussel tissues spiked with polyethylene, polypropylene and polyethylene terephthalate. The recovery percentage of microplastics for each method, species and polymer tested were overall similar among laboratories, and interlaboratory coefficient of variation was less than 11% for the majority of samples. Microplastic recovery rates for the two methods were similar for each sample tested, but overall mean interlaboratory recovery rate using KOH (96.67%) was higher than H₂O₂ (88.75%). Results validate the use of both methods for extracting microplastics from biota tissues. However, when comparing the two methods in terms of microplastic recovery rate, time consumed, technical difficulties and cost, digestion with 10% KOH is considered optimal.

Keywords: Microplastic, Ingestion, Isolation, Protocol harmonization, *Mullus barbatus*, *Mytilus galloprovincialis*