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The genetic asset of seaweed microbiomes encompasses ecologically and biotechnologically prominent functions

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Seaweeds synthesize a wide range of halogenated metabolites(1-3). The fate of these metabolites remains largely unknown. To address this challenge, the genetic asset encoded by the associated microbiomes of three seaweeds has been annotated. A remarkable gene content potentially active in the degradation of a wide spectrum of halocarbons and haloaromatic molecules has been uncovered. These functional data, which may help in deciphering the still largely unknown role of microbial dark matter(4), support the hypothesis of considering macroalgae as holobionts, capable of managing the metabolism of halogenated compounds. Furthermore, this uncharted genetic diversity encompasses biotechnologically pivotal enzymes(5-8).

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