Unveiling the Effects of Emerging Contaminants on Marine Organism Embryogenesis

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The increasing presence of contaminants of emerging concern (CECs) in everyday applications necessitates urgent examination of their impact on environmental and human health. Pharmaceuticals active compounds (PhACs) and micro/nano-sized fibers (MNF) are CECs found in aquatic environments thus prompting to explore their interaction within marine ecosystems. This research proposes to investigate the effects of Venlafaxine and two types of cellulose nanofibers, non-oxidized (CNF) and TEMPO-oxidized (TOCNF), during the embryogenesis of two filter feeder animals, the urochordate *Ciona robusta* and the bivalve *Mytilus galloprovincialis*. Through phenotypical, molecular and histochemical approaches we aim to shed light on the impacts of CNF, TOCNF, and Venlafaxine on these marine experimental models, both offering evolutionary significance for comparative analyses.