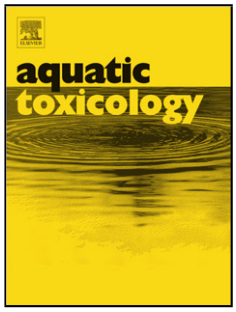

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Bioactive extracellular compounds produced by the dinoflagellate *Alexandrium minutum* are highly detrimental for oysters

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Highlights

- Paralytic shellfish toxins (PSTs) and bioactive extracellular compounds (BECs) of *Alexandrium minutum* have contrasted effects upon *Crassostrea gigas* oysters.
- BECs affect nutrition and valve-activity behavior.
- BECs induce hemocyte mobilization in gills.
- PSTs disrupt biological rhythm.
- PSTs provoke inflammation in the digestive gland.

Abstract

Blooms of the dinoflagellate *Alexandrium* spp., known as producers of paralytic shellfish toxins (PSTs), are regularly detected on the French coastline. PSTs accumulate into harvested shellfish species, such as the Pacific oyster *Crassostrea gigas*, and can cause strong disorders to consumers at high doses. The impacts of *Alexandrium minutum* on *C. gigas* have often been attributed to its production of PSTs without testing separately the effects of the bioactive extracellular compounds (BECs) with allelopathic, hemolytic, cytotoxic or ichthyotoxic