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Paralytic Shellfish Profiles Produced by the Toxic Dinoflagellate *Pyrodinium bahamense* from Sepanggar Bay, Malaysia

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CHARACTERIZATION OF THE SAXITOXIN BIOSYNTHETIC STARTING GENE, *sxtA*, IN THE TOXIC DINOFLAGELLATE, *Pyrodinium bahamense* var. *compressum*

Yahumin, S. , Rodrigues, K.F. , Chin, G.J.W.L.

(2022) *Journal of Sustainability Science and Management*

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Abstract

Pyrodinium bahamense var compressum is a harmful dinoflagellate that produces saxitoxin, which causes paralytic shellfish poisoning (PSP) that is deadly to humans. A non-axenic culture of P. bahamense was established using f/2 media from samples collected from Sepanggar Bay, Kota Kinabalu, Sabah. Toxin analyses of cultures harvested on days 60, 120, 180, and 360 were performed using high-performance liquid chromatography with a fluorescence detector and compared with samples collected at the same location during the bloom in 2021. The highest cell toxin content was found in the bloom sample (86.2 fmole/cell), and no toxin was detected in the culture 60 days old. In addition, cell toxin content for the P. bahamense culture was low (9.4-16.5 fmole/cell). Based on the toxin profile, P. bahamense comprises 84-98% of gonyautoxin 4. In summary, the current findings add to the existing knowledge of the toxin profiling of P. bahamense, a toxic, harmful algal bloom species, thus, leading to better toxin management. © Universiti Putra Malaysia Press.

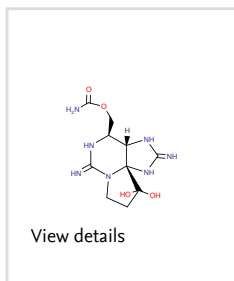
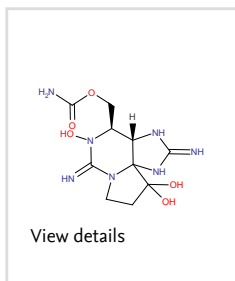
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Gonyautoxin; HPLC; PSP; Pyrodinium bahamense; saxitoxin


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