

Halophilic benthic diatom *Amphora coffeaeformis*—A potent biomarker for lipid and biomedical application

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Received 16 January 2016; revised 16 November 2016

Biomarkers offer a powerful means to study life and its interaction with the environment. The evolutionary record of eukaryotic phytoplankton has been studied through fossils and molecular biomarkers, such as lipids and nucleic acids. Algal taxonomic groups containing carotenoids serve as age-diagnostic biomarkers associated to photosynthetic pigments or fatty acids. Diatoms are known to thrive even in hypersaline conditions which are restricted to higher salinity. Results of this study have revealed the presence of a specific highly branched isoprenoid (HBI) compound, squalene (0.004 g) in the halophilic benthic diatom *Amphora coffeaeformis* which is considered to be the marker for hyper salinity. It also corresponds to the biomarker of oxidation processes.

Keywords: Hypersaline, Highly branched isoprenoids (HBI), Squalene