

EU FP7 BAMMBO: sustainable production of Biologically Active Molecules of Marine Based Origin

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The current growing demand for marine resources, in particular High Value Added molecules (HVAB's) could pose a serious threat to marine ecosystems and marine biodiversity. Instead of exploiting the natural marine resources, environmental friendly and economically sustainable ways for culturing organisms with economically interesting composition should be developed. The FP7 project BAMMBO addresses all key issues associated with the culture of marine organisms and will overcome these bottlenecks by designing economically sustainable and scalable culturing methodologies for industrial scale production of high added values compounds. For this purpose, the BAMMBO consortium has identified three microalgal species: *Phaeodactylum tricornutum*, *Cylindrotheca closterium* and *Haematococcus pluvialis* as model species. All three are producers of bioactive molecules: EPA, fucoxanthin and astaxanthin, respectively. The production of HVAB's is often elicited by the alteration of environmental and nutrimental parameters, so called abiotic stressors. This study within the project focuses on the optimization of growth, harvest and screening of *P. tricornutum*, *C. closterium* and *H. pluvialis*. The elicitation of secondary metabolites is investigated *in vitro* at the flask scale by measuring metabolite production in response to various stresses.