

Presence of an heparin-binding growth factor in *Concholepas concholepas* Bruguiere (Mollusca; Gastropoda; Muricidae)

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Abstract

Growth regulation and differentiation are important processes in the life history of marine invertebrates. A comprehensive understanding of such processes at the cellular and molecular level is necessary to evaluate the possible applications of growth factors in shellfish aquaculture. We have studied the capability of tissues of the marine molluscan *Concholepas concholepas* Bruguiere to stimulate cell proliferation of fibroblasts in culture. Our results indicate that muscular foot extracts of this species contain a factor that: (1) stimulates the [³H]thymidine incorporation into DNA of 3T3 cells, (2) binds to heparin-agarose columns (3) requires sulfation activity in the responding cell, and (4) is probably responsible for inducing cellular differentiation. An heparin-binding growth factor in the foot of *C. concholepas* was identified as being able to regulate cell proliferation and probably cell differentiation. The possible application of such factor to improve molluscan growth in aquaculture is suggested.