

Evaluation of Polypeptide Complexes from Marine Sources with Relevance in Initiation and Propagation Mechanisms of Osteoarticular Dysfunctions

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Abstract. *The aim of the present study was to obtain a protein fraction rich in enzymes with proteolytic activity such as serine proteases, chymotrypsins and cysteine proteases and to investigate preliminary pharmacological effects with therapeutic potential in osteoarticular diseases. The processing of marine raw material by applying established and optimized sequences of operations (selective precipitation followed by fractionation by FPLC) led to well-defined protein fractions rich in proteolytic enzymes. To evaluate the biological effect of the isolated polypeptide fractions, an in vitro model on normal human osteoblast (HOB) and osteoarthritic (HOB-OA) cell lines was carried out in which the modulation of cell proliferation under the action of the polypeptide complexes was followed.*

Key words: osteoarthritis, trypsin proteinase, HOB-OA, proteases.

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1. Introduction

Osteoarthritis is a progressive non-inflammatory condition characterized by gradual erosion of articular cartilage until its disappearance, accompanied by osteophytic bone remodeling, subchondral sclerosis, inflammatory changes of the synovial membrane and joint capsule [1-4]. Recently, a serious international