

SCREENING SCORPIONFISH VENOM FOR NOVEL INTEGRIN INHIBITOR

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Venomous animals have developed natural inhibitors of integrin-ligand interactions, showing anti-adhesive properties that are related to their specific interaction with integrins. Recently they have become an interesting target for the development of new cancer therapy, because of their potential to inhibit angiogenesis. However, inhibitors of integrins from fish venom have not been explored so far.

The scorpionfishes are the most venomous fishes in the Atlantic Ocean. Envenomation occurs through mechanical pressure on the spine and it is frequently involved in human accidents causing severe injuries.

Taking advantage of the established system to produce soluble recombinant integrins, the aim of our study is to search for inhibitors of collagen-binding $\alpha 1\beta 1$ integrin from scorpionfish (*Scorpaena plumieri*) venom.

For this purpose, the venom was extracted and immediately separated by gel permeation chromatography. The inhibitory capability of the eluate fractions was tested in an inhibition ELISA. After the fractionation of the whole venom, six peaks were eluted. The inhibitory activity was predominantly associated with two of these fractions. Proteins of low molecular weight and gelatinolytic activity were found on both active fractions. Our study provides experimental evidences of the presence of a good candidate for novel $\alpha 1\beta 1$ integrin inhibitor on the scorpionfish *Scorpaena plumieri* venom. Further studies and purification procedures are in progress to elucidate the structure and function of this inhibitor.

Key words: *Scorpaena plumieri*, fish venom, integrins, integrin inhibitor.

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