Effects of Chlorotoxin on Matrix Metalloproteinase-2 (MMP-2) in Melanoma and Breast Cancer Cell Lines

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Authors’ contributions

This work was carried out in collaboration between all authors. Authors SOA and CCC designed the study, performed the statistical analysis and wrote the protocol. Authors KTKV and GEO wrote the first draft of the manuscript. Authors GEO and EPO managed the analyses of the study. Author KTKV managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Matrix metalloproteinases-2 belongs to gelatinase group of MMP family which are endopeptidases involved in the degradation of extracellular matrix proteins such as collagen, elastin, fibronectin or proteoglycans. MMPs play crucial functions in physiological processes such as embryogenesis, wound healing, and pathogenesis of many diseases such as cancer inflammatory, liver and neurological diseases. Scorpion venom peptides are promising drug candidates for cancer treatment, especially chlorotoxin commonly extracted from Israeli *Leiurus quinquestriatus* scorpion giant. Chlorotoxin specifically binds to the surface of glioma cells through its principal Cltx receptor.