

Screening of Marine Plants Extracts on Nitric Oxide production in Mouse Peritoneal Macrophages Stimulated with Lipopolysaccharide

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Abstract

In our search for antiinflammatory agents related to atopic dermatitis from marine organism, we investigated the effects of thirteen seaweeds and ten salt marsh plants extracts on the activities of inducible nitric oxide synthase (iNOS) in lipopolysaccharide (LPS)-induced mouse peritoneal macrophages.

Among a variety of inflammatory mediators released by activated macrophage, nitric oxide (NO) is identified as a potent molecule, which may exert regulatory or cytotoxic effects. Since excessive production of NO from the inducible nitric oxide synthase (NOS) isoform has been implicated in the pathogenesis of a variety of inflammatory and immunologically mediated disease, the development of potent and selective inhibitors of the human inducible (NOS) isoform is an important therapeutic target.

From the present study, we found that acetone/methylene chloride extracts of *Laurencia okamurae*, *Grateloupia lanceolata* and methanol extracts of *Vitex rotundifolia*, *Corydalis heterocarpa*, unidentified O3H-4 species inhibited LPS-induced NO production at the 10 μ g/ml concentration. Furthermore these extracts didn't have any effect on cell viability at the concentrations used, as indicated by the modified MTT assay. Thus it was proved to become useful candidate marine organisms for skin inflammatory disease due to NO.

References

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