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Extraction and characterization of bioactives from marine sources: A concept of modern research and drug discovery

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Marine organisms are increasingly being investigated as sources of bioactive molecules with therapeutic applications as nutraceuticals and pharmaceuticals. Recent trends in functional foods have demonstrated that bioactive molecules play a major therapeutic role in human disease, therefore nutritionists, biomedical scientists and food scientists are working together to discover new bioactive molecules that have increased potency and therapeutic benefits. Marine life constitutes almost 80% of the world biota with thousands of bioactive compounds and secondary metabolites derived from marine invertebrates such as tunicates, sponges, mollusks, sea hares, bryozoans, sea slugs and other marine organisms. These bioactives and secondary metabolites possess antibiotic, anti-parasitic, anti-viral, anti-inflammatory, anti-fibrotic and anti-cancer activities. They are inhibitors or activators of critical enzymes, agonists or inhibitors of transcription factors, competitors of transporters and sequestrants to modulate various physiological pathways. The current review summarizes the widely available marine-based nutraceuticals and recent findings, mainly focusing on mode of action, efficacy and underlying mechanisms. It also presents recent research involving the isolation, identification and characterization of marine-derived bioactives with various therapeutic potentials.

Biography

Hafiz ansar rasul Suleria has completed his postgraduate fellowship from University of Queensland, Australia in 2014. He has published many papers in International journals and he is the author of many books related to food health.

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