

Therapeutic potential of marine peptides in malignant melanoma

Salman Ahmed, Waqas Alam, Khalaf F. Alsharif, Michael Aschner, Fuad M. Alzahrani, Luciano Saso and Haroon Khan

Environmental Research, 227: 115771, 2023

Abstract

Malignant melanoma is the most dangerous type of skin cancer. It is becoming more common globally and is increasingly resistant to treatment options. Despite extensive research into its pathophysiology, there are still no proven cures for metastatic melanoma. Unfortunately, current treatments are frequently ineffective and costly, and have several adverse effects. Natural substances have been extensively researched for their anti-MM capabilities. Chemoprevention and adjuvant therapy with natural products is an emerging strategy to prevent, cure or treat melanoma. Numerous prospective drugs are found in aquatic species, providing a plentiful supply of lead cytotoxic chemicals for cancer treatment. Anticancer peptides are less harmful to healthy cells and cure cancer through several different methods, such as altered cell viability, apoptosis, angiogenesis/metastasis suppression, microtubule balance disturbances and targeting lipid composition of the cancer cell membrane. This review addresses marine peptides as effective and safe treatments for MM and details their molecular mechanisms of action.