

Revisiting The Melanomagenic Pathways And Current Therapeutic Approaches

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Abstract

Melanoma is one of the most aggressive forms of skin cancer with a steady increase in global incidence and mortality rate over the past five decades. Paradoxically, both reduced and excessive sun exposure has been linked to increased risk of melanoma incidence and death. Although the histological classification of melanoma is useful in diagnosis, its molecular subtypes are often determined by somatic mutations, which could be UV-dependent or -independent. Multiple genes involved in cancer development are often mutated dysregulating molecular pathways with concomitant phenotypic heterogeneity. Hence, treating melanoma has been a challenge, with patients experiencing poor clinical outcomes to current therapeutic options. This presents an unmet need to understand the interaction of molecular networks underpinning melanogenesis. This review describes the crosstalk of signaling cascades in melanoma development and the putative druggable targets, with the view of elucidating newer and better therapeutic strategies for the disease.