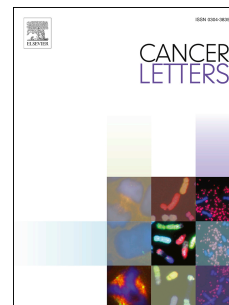


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Molecular targets and anti-cancer potential of escin

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Abstract

Escin is a mixture of triterpenoid saponins extracted from the horse chestnut tree, *Aesculus hippocastanum*. Its potent anti-inflammatory and anti-odematous properties makes it a choice of therapy against chronic venous insufficiency and odema. More recently, escin is being actively investigated for its potential activity against diverse cancers. It exhibits anti-cancer effects in many cancer cell models including lung adenocarcinoma, hepatocellular carcinoma and leukemia. Escin also attenuates tumor growth and metastases in various *in vivo* models. Importantly, escin augments the effects of existing chemotherapeutic drugs, thereby supporting the role of escin as an adjunct or alternative anti-cancer therapy. The beneficial effects of escin can be attributed to its inhibition of proliferation and induction of cell cycle arrest. By regulating transcription factors/growth factors mediated oncogenic pathways, escin also potentially mitigates chronic inflammatory processes that are linked to cancer survival and resistance. This review provides a comprehensive overview of the current knowledge of escin and its potential as an anti-cancer therapy through its anti-proliferative, pro-apoptotic, and anti-inflammatory effects.

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