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Esophageal carcinoma - From molecular pathogenesis to therapeutics

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Titolo
Carcinoma esofageo - dalla patogenesi molecolare alla terapia

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Esophageal squamous cell carcinoma, Henan province, *Gleditsia sinensis*, genes

Parole chiave
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Summary
Esophageal squamous cell carcinoma (ESCC) has a multifactorial etiology which involves environmental and/or genetic factors. In this article we investigate the anti-cancer effects of a series of natural products and the chemical derivatives of the active components for targeting ESCC and other cancers with defined mechanisms.

Riassunto
Il carcinoma esofageo a cellule squamose (ESCC) ha una eziologia multifattoriale che coinvolge fattori ambientali e/o genetici. In questo articolo abbiamo studiato gli effetti anti-cancro di una serie di prodotti naturali e derivati chimici dei componenti attivi per il targeting dell'ESCC e di altri tipi di cancro con meccanismi definiti.

Esophageal squamous cell carcinoma (ESCC) has a multifactorial etiology, which involves environmental and/or genetic factors. The incidence of ESCC also shows marked variation in its geographic distribution and occurs at relatively high frequency in certain regions of China such as Henan province. In Hong Kong, the incidence of ESCC accounts for more than 90% of esophageal cancer, in contrast to western countries where esophageal adenocarcinoma is the predominant type, making this disease of intense local importance for investigation. Current modalities of therapy for this disease offer relatively poor survival and cure rates, and thus more investigations on the etiological factors at the molecular level and novel therapeutic agents are essential for better understanding the molecular pathogenesis of this disease and for further improvement of diagnosis and treatment of ESCC. My group previously investigated the anti-cancer effects of a series of natural products and the chemical derivatives of the active components for targeting ESCC and other cancers with defined mechanisms (1-4). We also identified and preliminarily characterized the roles of few novel oncoge-

nes that showed high frequency of gene amplification and overexpression in ESCC cell lines and primary tumors (5-7). Further investigation on these novel molecular targets together with the findings about the novel therapeutics may open new chapters for the future treatment of ESCC at molecular level.

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