

综述

Caveolin-1在肿瘤发生发展及耐药机制中的作用

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摘要

Caveolin-1是细胞膜微囊(caveolae)的重要组成结构,在大多数正常的细胞中表达丰富。通过其脚手架区域,在多种信号分子向胞内传递信息的过程中发挥着重要作用,其功能研究是生物学的热点。而近来研究表明caveolin-1在大多数肿瘤细胞中表达下降甚至缺如,过表达caveolin-1能抑制其恶性生长性状。近来的癌细胞转化及基因敲除等实验结果倾向于caveolin-1就是7q31位点的肿瘤抑制基因。但在少数肿瘤如前列腺癌、乳腺癌患者的细胞中检测到caveolin-1高表达。在纤维原细胞和上皮细胞的凋亡中起促进作用。Caveolin-1与多种肿瘤细胞的增殖、分化、侵袭、转移以及凋亡关系密切,且可能是肿瘤细胞多药耐药逆转的一个新靶点,以类似于介导胆固醇流出途径的方式将药物排出细胞导致细胞耐药性增强。

关键词 [caveolin-1](#) [肿瘤](#) [肿瘤抑制基因](#); [凋亡](#); [多药耐药性](#)

分类号

Role of caveolin-1 in the emergence, progression and multi-drug resistance of tumor

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Abstract

Caveolae/lipid rafts are vascular invaginations of the plasma membrane. Caveolin-1 is the principal component of caveolae which presents in most cells. Recent studies have shown that caveolin-1 associates and directly interacts with a variety of signaling molecules via the caveolin-scaffolding domain. Caveolin-1 expression is down-regulated or absent in most human cancer cells. Several lines of evidence are consistent with the idea that caveolin-1 functions as a "transformation suppressor" protein. Over-expression of caveolin-1 blocks anchorage-independents growth of oncogenically transformed cells. Caveolin-1 has been mapped to a common locus in chromosome 7q31.1-31.2, which is a possible candidate for a tumor suppressor gene postulated in this region. However, several papers have revealed the significantly higher levels of caveolin-1 expression in prostate cancers or breast cancers. It also sensitized fibroblastic and epithelial cells to apoptosis stimulation. Nowadays, its function study is the hot spot in bioresearch. The data had display that its function may have a close relation with cell proliferation, differentiation, transformation, metastasis and apoptosis, and it is perhaps the new target to multi-drug resistance of the tumor cells. In these cells, caveolin-1 is up-regulated, so maybe it is through a caveolin-dependent cholesterol efflux pathway to elevate cells of drug resistance.

Key words [caveolin-1](#) [tumor](#) [tumor suppressor gene](#) [apoptosis](#) [multi-drug resistance](#)

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