PI3K/AKT/mTOR信号通路介导索拉非尼治疗原发性肝癌耐药机制的研究进展

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Title: The progress of PI3K/AKT/mTOR signaling pathway via multiple mechanisms involving in sorafenib resistance of hepatocellular carcinoma

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摘要: 索拉非尼（sorafenib）作为原发性肝癌（hepatocellular carcinoma,HCC）靶向治疗的一线药物已广泛应用于临床，然而部分HCC患者对索拉非尼治疗耐药导致临床疗效欠佳，联合其他靶向药物的临床实验仍未取得突破，故深入研究索拉非尼耐药机制，逆转索拉非尼耐药对于改善肝癌治疗的预后具有重要意义。最新研究发现，PI3K/AKT/mTOR信号通路在索拉非尼耐药机制中起重要作用，本文将从PI3K/AKT/mTOR信号通路促进肿瘤血管生成、参与细胞自噬、抑制肿瘤细胞凋亡并促进其增殖、与RAS/RAF/ERK/MEK信号通路交联及其促进上皮-间质转化等几个方面，概述其在索拉非尼治疗原发性肝癌时产生耐药的机制，为进一步开发治疗原发性肝癌的新型药物提供研究方向。

Abstract: Sorafenib has been widely used as a first-line drug for HCC targeted therapy，however，some patients with HCC have poor clinical efficacy because of sorafenib resistance，and the experiment sorafenib combined with other targeted drugs has no breakthrough.Therefore，it is important to study the mechanism of sorafenib resistance and reverse sorafenib resistance to improve the prognosis of HCC treatment.Recent studies have found that the PI3K/AKT/mTOR signaling pathway plays an important role in sorafenib resistance.This article will start from PI3K/AKT/mTOR signaling pathways promoting tumor angiogenesis，participating in cell autophagy，inhibiting tumor cell apoptosis and promoting tumor cell proliferation，cross-link RAS/RAF/ERK/MEK signaling pathways and promoting epithelial-mesenchymal transition and other aspects outlined its mechanism of drug resistance in sorafenib treatment of primary HCC，providing research directions for the further development of new drugs for the treatment of primary liver cancer.

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备注/Memo: -

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