肝细胞生长因子抑制剂NK4与吲哚胺2，3-双加氧酶的联系

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Title: The relationship between hepatocyte growth factor antagonist NK4 and indoleamine 2，3-dioxygenase

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关键词: 肝细胞生长因子拮抗剂; 吲哚胺-2; 3-双加氧酶; c-Met; 肿瘤

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摘要: 肝细胞生长因子（hepatocyte growth factor，HGF）对多种细胞具有多种生物学作用，包括促有丝分裂、运动、形态发生和抗凋亡活性，可参与不同肿瘤中的恶性行为，例如侵袭和转移。因此，HGF可能是控制癌症恶性潜能的靶分子。而NK4是HGF的竞争性拮抗剂，可通过HGF拮抗作用和抗血管生成发挥抗肿瘤活性。另一方面，大多数肿瘤表达吲哚胺2，3-双加氧酶（indoleamine 2，3-dioxygenase，IDO），IDO是一种参与恶性肿瘤进展的免疫抑制酶，并且IDO可通过色氨酸饥饿机制抑制NK/T细胞的增殖，促成肿瘤诱导的免疫抑制，产生肿瘤免疫耐受。此外，研究表明NK4可通过c-Met-PI3K-AKT信号传导途径抑制IDO表达，从而抑制体内肿瘤生长，进一步证实NK4可作为潜在有用的免疫治疗性抗癌剂。

Abstract: Hepatocyte growth factor(HGF) has a variety of biological effects on many kinds of cells，including mitotic promotion，dynamic generation，morphological formation and anti-apoptotic activity，which may be involved in malignant behaviors such as invasion and metastasis in different tumors.Therefore，HGF may be a target molecule to control the malignant potential of cancer.NK4，a competitive antagonist for HGF，exerts antitumor activity through HGF antagonism and antiangiogenesis.What's more，most tumors express an immunosuppressive enzyme indoleamine 2，3-dioxygenase(IDO)，which involved in the progression of malignant tumors，can inhibit the proliferation of NK/T cells through the mechansim of tryptophan starvation，and develope the tumor immune tolerance environment.In addition，it has been shown that NK4 can inhibit the expression of IDO via the c-Met-PI3K-AKT signal pathway to inhibit tumor growth in vivo，which suggesting that NK4 can be used as a potential immunotherapy anticancer agent.

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