lncRNA PVT1调控肝癌细胞放射敏感性的分子机制

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Title: **Molecular mechanism of lncRNA PVT1 regulating radiosensitivity of hepatoma cells**

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摘要: 目的：探讨lncRNA PVT1调控肝癌细胞对放射照射增殖、凋亡的敏感性及机制。方法：运用qRT-PCR检测人肝癌细胞HepG2、人正常肝细胞L02中PVT1的表达。si-NC组（转染si-NC）、si-PVT1组（转染si-PVT1）、IR+si-NC组（转染si-NC后放射照射）、IR+si-PVT1组（转染si-PVT1后放射照射）均用脂质体法转染至HepG2细胞。MTT法检测各组细胞增殖；流式细胞术检测各组细胞凋亡；Western blot检测各组细胞中p-ATM、p-p53、p-Chk2、Bcl-2、Bax的蛋白表达。结果：与人正常肝细胞L02相比，人肝癌细胞HepG2中PVT1的表达显著升高（P<0.05）；敲减PVT1联合放射照射可明显抑制HepG2细胞增殖，促进凋亡且可下调p-ATM、p-p53、p-Chk2、Bcl-2蛋白表达，上调Bax蛋白表达。结论：敲减lncRNA PVT1可通过抑制HepG2细胞增殖，促进凋亡，增强其对放射照射的敏感性，为提高肝癌的治疗效率提供新靶点。

Abstract: Objective：To investigate the mechanism of lncRNA PVT1 sensitivity to proliferation and apoptosis of hepatocellular carcinoma cells irradiated by radiation.Methods：qRT-PCR was used to detect the expression of PVT1 in human hepatoma cells HepG2 and human normal liver cells L02.si-NC group (transfected si-NC)，si-PVT1 group (transfected si-PVT1)，IR+si-NC group (transfected si-NC and treated with radiation)，IR+si-PVT1 group (transfected si-PVT1 and treated with radiation) were transfected into HepG2 cells by liposome method.The proliferation of each group was detected by MTT assay.The apoptosis of each group was detected by flow cytometry.The protein expressions of p-ATM，p-p53，p-Chk2，Bcl-2 and Bax were detected by Western blot.Results：Compared with human normal liver cell line L02，the expression of PVT1 in human hepatoma cell line HepG2 was significantly increased (P<0.05).PVT1 combined with radiotherapy significantly inhibited HepG2 cell proliferation，promoted apoptosis and down-regulated protein expression of p-ATM，p-p53，p-Chk2 and Bcl-2，up-regulated Bax.Conclusion：Knockdown of lncRNA PVT1 can inhibit the proliferation and promote apoptosis to enhance its sensitivity to radiation exposure of HepG2 cells，which will provide a new target for improving the therapeutic efficiency of hepatoma.

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备注/Memo: -

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