下调PHLDB3对胃癌耐药细胞系SGC7901/ADR药物敏感性的影响

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2019年17期 **页码:** 3010-3014 **栏目:** 论著（基础研究） **出版日期:** 2019-07-30

Title: **The effect of PHLDB3 downregulation on drug resistance in gastric cancer cell line SGC7901/ADR**

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关键词: PHLDB3; 胃癌; 多药耐药

Keywords: PHLDB3; gastric cancer; multidrug resistance

分类号: R735.2

DOI: 10.3969/j.issn.1672-4992.2019.17.007

文献标识码: A

摘要: 目的：探讨下调PHLDB3对胃癌耐药细胞系 SGC7901/ADR 药物敏感性的影响。方法：采用实时定量聚合酶链反应（qRT-PCR）和蛋白免疫印迹技术（Western blot）的方法检测胃癌及癌旁正常组织中PHLDB3的表达（分别是20对和10对）；qRT-PCR和Western blot检测PHLDB3在胃癌细胞系 SGC7901以及胃癌耐药细胞系SGC7901/ADR和SGC7901/VCR中的表达；MTT法检测SGC7901、SGC7901/ADR及转染PHLDB3 siRNA后 SGC7901/ADR的半数抑制浓度（IC50）值；流式细胞仪检测细胞凋亡。结果：qRT-PCR和Western blot结果显示：PHLDB3在胃癌组织中的表达明显高于癌旁正常组织（P<0.000 1）；PHLDB3在耐药细胞系SGC7901/ADR和SGC7901/VCR中的表达明显高于其亲本细胞系SGC7901（P<0.000 1和P<0.05）。Western blot结果显示：相对于转染 PHLDB3 negative control（NC）组，转染 PHLDB3 siRNA组的SGC7901/ADR细胞中PHLDB3的表达降低（P<0.005）。MTT结果显示：SGC7901与SGC7901/ADR的IC50值分别为（1.5±0.1） μg/ml与（5.5±0.2） μg/ml（P<0.000 1）；SGC7901/ADR 转染 PHLDB3 siRNA 后对顺铂的IC50值明显下降（P<0.05）。流式细胞术（flow cytometry，FCM）检测凋亡，结果显示：下调PHLDB3的表达后，SGC7901/ADR细胞的凋亡率明显增加（P<0.05）。结论：PHLDB3能够促进胃癌细胞系SGC7901/ADR产生多药耐药。

Abstract: Objective：To investigate the influence of PHLDB3 downregulation on drug resistance in gastric cancer drug-resistant cell line SGC7901/ADR. Methods：The expression of PHLDB3 in gastric cancer and adjacent normal tissues was determined by qRT-PCR（20 pairs) and Western blot（10 pairs).The expression of PHLDB3 in gastric cancer cell lines SGC7901，drug-resistant cell line SGC7901/ADR and SGC7901/VCR was detected by qRT-PCR and Western blot.The influence of PHLDB3 knock-down on the IC50 and cell apoptosis of drug-resistant cell line SGC7901/ADR was evaluated using MTT assay and FCM. Results：qRT-PCR and Western blot showed that PHLDB3 was upregulated in gastric cancer compared with adjacent normal tissues（P<0.000 1)，and the expression of PHLDB3 was higher in drug-resistant cell line SGC7901/ADR and SGC7901/VCR than that in SGC7901（P<0.000 1 and P<0.05).Compared to SGC7901/ADR transfected with PHLDB3 NC，SGC7901/ADR transfected with PHLDB3 siRNA showed lower PHLDB3 expression（P<0.005).In addition，MTT assay and FCM showed that the decreased IC50 and increased cell apoptosis rate were observed in drug-resistant cell line SGC7901/ADR with PHLDB3 knock-down(P<0.05).Conclusion：PHLDB3 could contribute to the multidrug resistance of gastric cancer cell line SGC7901/ADR.

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备注/Memo: -

更新日期/Last Update: 2019-07-30