

[1]李博,叶明翔,姜秀秀,等.吉非替尼通过自噬促进PC-9肺癌细胞凋亡的实验研究[J].第三军医大学学报,2014,36(13):1376-1379.

Li Bo, Ye Mingxiang, Jiang Xiuxiu, et al. Gefitinib improves apoptosis in lung adenocarcinoma cell line PC-9 through induction of autophagy[J]. J Third Mil Med Univ, 2014, 36(13): 1376-1379.

点
击
复
制

吉非替尼通过自噬促进PC-9肺癌细胞凋亡的实验研

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 36 期数: 2014年第13期 页码: 1376-1379 栏目: 论著 出版日期: 2014-07-15

Title: Gefitinib improves apoptosis in lung adenocarcinoma cell line PC-9 through induction of autophagy

作者: [李博](#); [叶明翔](#); [姜秀秀](#); [张艰](#)
第四军医大学西京医院呼吸内科

Author(s): [Li Bo](#); [Ye Mingxiang](#); [Jiang Xiuxiu](#); [Zhang Jian](#)
Department of Respiratory Diseases, Xijing Hospital, Fourth Military Medical University, Xi'an, Shaanxi Province, 710032, China

关键词: [非小细胞肺癌](#); [吉非替尼](#); [自噬](#)

Keywords: [non-small-cell lung cancer](#); [gefitinib](#); [autophagy](#)

分类号: R734.2; R965; R979.19

文献标志码: A

摘要: 目的 探讨自噬对吉非替尼(Gefitinib)诱导EGFR突变型NSCLC PC-9细胞凋亡的影响及机制。 方法 MTT法检测Gefitinib对PC-9细胞的生长抑制作用; AO染色观察经Gefitinib处理后PC-9细胞嗜酸性自噬泡(acidic vesicular organelles, AVOs)的变化情况; Western blot检测自噬标记物LC3、凋亡相关蛋白PARP、Caspase-3以及Akt/mTOR信号通路的表达; 流式细胞术检测Gefitinib及Gefitinib联合自噬诱导剂Rapamycin作用下细胞凋亡情况。 结果 MTT及流式细胞术显示Gefitinib呈剂量依赖性抑制PC-9细胞生长并促进其凋亡, AO染色后, 经Gefitinib处理的PC-9细胞内可观察到红染的AVOs, Western blot显示Gefitinib能够诱导PC-9细胞自噬标记物LC3表达。 Gefitinib联合Rapamycin显著增强Gefitinib对于PC-9细胞的杀伤作用, 并且降低PC-9细胞中Akt/mTOR的磷酸化水平。 结论 Gefitinib能够诱导PC-9细胞发生自噬, 增强细胞自噬能够促进Gefitinib杀伤PC-9细胞的作用。

Abstract: Objective To determine the effect and underlying mechanism of autophagy on the apoptosis in gefitinib-induced non-small cell lung cancer cell (NSCLC) line PC-9 with epidermal growth factor receptor (EGFR)-mutation. Methods MTT assay was applied to assess cell viability in PC-9 cells after gefitinib treatment. Acridine orange staining was used to detect the formation of acidic vesicular organelles (AVOs) after the treatment. Western blot analysis was used to determine the expression of autophagy marker LC3, apoptosis-related proteins PARP, Caspase-3 and cleaved Caspase-3, and signal pathway proteins Akt and mTOR. Flow cytometry was used to measure the apoptosis in presence or

导航/NAVIGATE	
本期目录/Table of Contents	
下一篇/Next Article	
上一篇/Previous Article	
工具/TOOLS	
引用本文的文章/References	
下载 PDF/Download PDF(1071KB)	
立即打印本文/Print Now	
查看/发表评论/Comments	
导出	
统计/STATISTICS	
摘要浏览/Viewed	
全文下载/Downloads	115
评论/Comments	69



更新日期/Last Update: 2014-07-02

absence of autophagy inducer rapamycin. Results Gefitinib treatment inhibited cell growth and induced cell apoptosis in a dose-dependent manner in PC-9 cells shown by MTT assay and flow cytometry, enhanced autophagy for more AVOs formed by acridine orange staining, and significantly upregulated LC3. Gefitinib in combination with rapamycin promoted cytotoxic effect of gefitinib to PC-9 cells and down-regulated Akt/mTOR phosphorylation. Conclusion Gefitinib induces autophagy in PC-9 cells, and induction autophagy facilitates gefitinib-induced apoptosis.

参考文献/References:

李博, 叶明翔, 姜秀秀, 等. 吉非替尼通过自噬促进PC-9肺癌细胞凋亡的实验研究[J]. 第三军医大学学报, 2014, 36(13):1376-1379.

相似文献/References:

- [1]刘翩,王斌,吴国明.吉非替尼维持治疗晚期肺腺癌长期生存1例[J].第三军医大学学报,2012,34(15):1491.
- [2]蒋娟,易亭伍,张瑜,等.非小细胞肺癌的肿瘤干细胞与非肿瘤干细胞中表皮生长因子受体基因异质性的研究[J].第三军医大学学报,2012,34(20):2039.
Jiang Juan,Yi Tingwu,Zhang Yu,et al.Genetic heterogeneity of EGFR in cancer and non-cancer stem cells from non-small cell lung cancer[J].J Third Mil Med Univ,2012,34(13):2039.
- [3]杨庆玲,刘翩,王斌,等.EGFR-TKIs治疗晚期非小细胞肺癌并发间质性肺炎4例报告并文献复习[J].第三军医大学学报,2012,34(20):2060.
Yang Qingling,Liu Pian,Wang Bin,et al.Interstitial pneumonia in EGFR-TKIs-treated non-small-cell lung cancer: report of 4 cases and review of the literature[J].J Third Mil Med Univ,2012,34(13):2060.
- [4]斯晓燕,张力.西妥昔单抗联合化疗一线治疗非小细胞肺癌20例临床观察[J].第三军医大学学报,2012,34(20):2063.
Si Xiaoyan,Zhang Li.Outcomes of cetuximab combined with chemotherapy as first line therapy in 20 patients with non-small cell lung cancer[J].J Third Mil Med Univ,2012,34(13):2063.
- [5]罗虎,罗丹,宫亮,等.联合CIK细胞与化疗对比单纯化疗治疗中晚期非小细胞肺癌的Meta分析[J].第三军医大学学报,2012,34(20):2119.
- [6]张瑞萍,吴继华,黄英武,等.循环肿瘤细胞检测指导老年非小细胞肺癌个体化治疗1例[J].第三军医大学学报,2012,34(22):2248.
- [7]闫霞,曹官铭,王导新.吉西他滨联合卡铂治疗老年非小细胞肺癌的临床评价[J].第三军医大学学报,2007,29(19):1913.
YAN Xia,CAO Guan-min,WANG Dao-xin.Gemcitabine plus carboplatin regimen in treatment of advanced non-small cell lung cancer in aged patients[J].J Third Mil Med Univ,2007,29(13):1913.
- [8]闵发胜,陈正堂.人非小细胞肺癌与外周血淋巴细胞表达LRP的相关性研究[J].第三军医大学学报,2007,29(17):1699.
MIN Fa-sheng,CHEN Zheng-tang.Correlation between expression of lung resistance-related protein in non-small cell lung cancer and that in peripheral blood lymphocytes[J].J Third Mil Med Univ,2007,29(13):1699.
- [9]高娟,饶进军,吴少瑜,等.丁酸钠与顺铂联用对非小细胞性肺癌细胞生长的抑制作用[J].第三军医大学学报,2007,29(11):1066.
GAO Juan,RAO Jin-jun,WU Shao-yu,et al.Combination of sodium butyrate and cisplatin has antiproliferative effects on non-small lung cancer cell line[J].J Third Mil Med Univ,2007,29(13):1066.
- [10]郑顺利,杨庆生,马小红.非小细胞肺癌患者纵隔淋巴结和外周血中MUC1基因的检测及意义[J].第三军医大学学报,2006,28(24):2472.