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论文

Bullatacin克服肿瘤多药抗药性作用及其机理

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摘要：

目的：探讨bullatacin克服肿瘤多药抗药性(MDR)的作用及其机制。方法：以两对MDR细胞株及其相应的敏感株进行对比，比较两种细胞株的细胞毒、Fura-2及阿霉素细胞内积累。结果：bullatacin不仅对敏感细胞株具有很强的细胞毒活性，而且对MDR细胞株也同样具有很强的细胞毒活性，不受抗药性的影响。bullatacin能使MDR细胞内Fura-2的积累增加；也能增加MDR细胞内阿霉素的积累。结论：bullatacin具有克服MDR的作用，其作用机理与bullatacin影响MDR细胞P-gp的功能，使MDR细胞内抗癌药物积累增加有关。

关键词： Bullatacin 多药抗药性 P-糖蛋白 阿霉素 新型钙离子荧光指示剂(Fura-2)

THE CIRCUMVENTION OF TUMOR MULTIDRUG RESISTANCE BY BULLATACIN AND ITS MECHANISM

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Abstract:

AIM: To find new drugs to overcome tumor multidrug resitance(MDR), bullatacin was studied with technique of cell culture *in vitro*. METHODS: The study was carried out using two pairs of cell lines: MDR cell lines and their parental sensitive cell lines including MCF-7/Adr cells and MCF-7 cells, KBv200 cells and KB cells. Cytotoxicity was determined with tetrazolium (MTT) assay. The function of P-gp was examined by Fura-2/AM assay. Cellular accumulation of adriamycin(ADM) was determined by fluorescence spectrophotometry measurement (to reflect cellular bullatacin accumulation). RESULTS: Bullatacin showed potent cytotoxicity to MCF-7/Adr cells, MCF-7 cells, KBv200 cells and KB cells. The cytotoxicities of bullatacin to MDR cells were similar to that to parental sensitive cells. Bullatacin markedly increased cellular Fura-2 and ADM accumulation in MCF-7/Adr cells, while not in MCF-7 cells. CONCLUSION: There was no cross-resistance of bullatacin to P-glycoprotein-positive MCF-7/ADR and KBv200 cell lines as compared with their sensitive cell lines. The mechanism of overcoming MDR was associated with the decrease of P-gp function and the increase of MDR cellular drug accumulation.

Keywords: multipledrug resistance P-glycoprotein adriamycin Fura-2 bullatacin

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