[1]向莉,李鹏,张竹君,等.IBP表达抑制后活化T淋巴细胞基因表达谱变化分析[J].第三军医大学学报,2013,35(02):109-113.

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IBP表达抑制后活化T淋巴细胞基因表达谱变化分析

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Title: Gene expression profiles of activated T lymphocyte with IBP deficient by oligonucleotide microarray

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摘要: 目的 利用全基因组寡核苷酸芯片检测干扰素调节因子-4结合蛋白（IRF-4 binding protein，IBP）表达抑制后活化T淋巴细胞基因表达谱的差异。 方法 采用本室构建的IBP表达抑制的Jurkat T细胞及相应对照细胞为实验对象，Anti-CD3、CD28 mAb处理细胞后提取刺激24、48 h的细胞总RNA，利用北京博奥生物有限公司22K Human Genome Array芯片检测基因表达的差异，以MAS.doc.V1软件，结合KEGG、NCBI等生物信息学数据库检索分析差异表达基因功能和网络关系。 结果 IBP基因表达抑制的Jurkat T细胞在TCR信号刺激24、48 h后，细胞能量代谢、周期生长、转录调控及凋亡等多种类型的基因发生差异表达改变，2个时相组共有56个差异表达趋势一致基因，其中17个基因共同上调，39个基因共同下调。 结论 在活化的Jurkat T细胞中IBP表达抑制所致多个基因差异表达。

Abstract: Objective To investigate the difference of gene expression between activated IBP-deficient and wild T lymphocyte by oligonucleotide microarray in order to determine the role of IBP in T lymphocyte activation. Methods Total RNA was isolated from IBP-deficient and its parental Jurkat T cells with anti-CD3 and anti-CD28 mAb stimulation for 24 or 48 h, and synthesized into double-stranded cDNA that was then synthesized into biotin-labeled cRNA probe by *in vitro* transcription. The cRNA probes were separately hybridized with 22K Human Genome Array Chip, and the signals were scanned by the GeneArray Scanner. The results were analyzed by bioinformatics. Results In comparison with the expression profile of parental Jurkat T cells, anti-CD3 and anti-CD28 mAb stimulation for 24 or 48 h resulted in that 56 genes were found to have no

导航/NAVIGATE
本期目录/Table of Contents
下一篇/Next Article
上一篇/Previous Article

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change in the expression, 17 genes were up-regulated and 39 genes down-regulated in activated IBP-deficient Jurkat T cells. According to Gene Ontology and Tree View analysis, these genes were involved in energy metabolism, cell cycle, transcription and apoptosis and so on. Conclusion IBP-deficient causes differential expression in many genes in Jurkat T cells.

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