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论著

脂氧素A4拮抗肿瘤坏死因子α对系膜细胞Jak1/STAT3途径的活化

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摘要 目的：验证脂氧素A4(LXA4) 是否抑制肿瘤坏死因子α(TNFα) 所致的大鼠肾小球系膜细胞的增殖，并探讨其作用中信号转导的分子机制。 方法： 对体外培养的大鼠肾小球系膜细胞，用不同浓度的LXA4 预刺激，再加入TNFα共同孵育，或单用TNFα刺激系膜细胞。用MTT渗入法检测细胞的增殖。用凝胶电泳迁移率试验（EMSA）检测信号转导子和转录激活子-3（STAT3）的活性。用RT-PCR法检测细胞周期素E的mRNA表达。用Western blotting法检测细胞周期素E的蛋白表达量。结果： LXA4呈剂量依赖性地抑制TNFα诱导的肾小球系膜细胞的增殖、STAT3结合活性增加、细胞周期素E mRNA表达与蛋白合成的亢进。结论： LXA4能够抑制TNFα所致的大鼠系膜细胞的增殖，其机制可能是阻断Jak1/STAT3信号转导途径。

关键词 脂氧素； 肿瘤坏死因子； 肾； 信号转导

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Activation of Jak1/STAT3 signal pathway by TNF-α in mesangial cells is inhibited by lipoxin A4

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Abstract

<FONT face=Verdana>AIM: To find whether lipoxin A4 (LXA4) inhibits cell proliferation induced by TNF-α in rat mesangial cells, and to explore the molecular mechanisms of signal pathways of LXA4 actions. METHODS: Cultured rat mesangial cells were growth-arrested and exposed to TNF-α with or without preincubation with LXA4. Proliferation of mesangial cells was measured by MTT methods. Activities of STAT3 were analyzed by electrophoretic mobility shift assay. Expression of cyclin E mRNA was assessed by RT-PCR. Cyclin E proteins were determined by Western blotting analysis. RESULTS: TNF-α-induced proliferation and increased mRNA and protein expression of cyclin E in mesangial cells were inhibited by LXA4 in a dose-dependant manner. TNF-α-stimulation of the STAT3-binding activities in mesangial cells was down-regulated by lipoxin A4. CONCLUSION: Inhibitory effect of LXA4 on TNF-α-induced mesangial cell proliferation is mediated by Jak1/STAT3 signal pathway.</FONT>

Key words Lipoxin； Tumor necrosis factor； Kidney Signal transduction

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