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论文

曲匹地尔对培养大鼠血管平滑肌细胞的有丝分裂素激活蛋白激酶(MAPK)和P34^{cdc2}激酶的影响

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摘要：

目的：研究曲匹地尔(Tra)对培养大鼠主动脉血管平滑肌细胞的细胞增殖周期及对有丝分裂素激活蛋白激酶(MAPK)和P34^{cdc2}激酶的表达及活性的影响。方法：以流式细胞术测定细胞周期，免疫印迹法测定MAPK和P34^{cdc2}的表达，免疫沉淀后测定MAPK和P34^{cdc2}对其特异性底物髓脂质碱性蛋白(MBP)和Histone H1的磷酸化活性。结果：Tra降低细胞周期中S期比例和细胞分裂增殖指数，能明显抑制给血清刺激后MAPK的表达和活性，明显抑制P34^{cdc2}激酶活性而对其表达无明显影响。结论：Tra对细胞周期的影响与其抑制MAPK和P34^{cdc2}激酶活性和MAPK的蛋白表达有关。

关键词： 曲匹地尔 血管平滑肌 免疫印迹 蛋白激酶类 免疫沉淀

EFFECTS OF TRAPIDIL ON EXPRESSION AND ACTIVITIES OF MITOGEN-ACTIVATED PROTEIN KINASE(MAPK) AND P34cdc2 KINASE IN CULTURED RAT AORTIC SMOOTH MUSCLE CELLS

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Abstract:

AIM: To study the effects of trapidil on cell cycle of cultured rat aortic vascular smooth muscle cells (VSMC) and on the expression and activities of mitogen-activated protein kinase (MAPK) and P34^{cdc2} kinase in cultured cells. METHODS: The cell cycle distribution was measured by flow cytometry. The expression of MAPK and P34^{cdc2} were assayed by Western-blotting. MAPK activity and P34^{cdc2} activity were assayed by phosphorylation of their specific substrates myelin basic protein (MBP) and Histone H1 after immunoprecipitation. RESULTS: Pretreatment with trapidil(Tra), the S phase in the cell cycle distribution and the mitotically active stage of the cells were markedly decreased. The enhancement of MAPK expression was markedly suppressed by Tra, but the expression of P34^{cdc2} was not affected by Tra. The MAPK and P34^{cdc2} activities were inhibited by Tra. CONCLUSION: Tra affects cell cycle by its inhibitory effect on the kinase activities of MAPK and P34^{cdc2}, and its inhibitory effect on the expression of MAPK.

Keywords: vascular smooth muscle immunoblotting protein kinase immunoprecipitation trapidil

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