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论著

GSH减少可加强MNNG对P38 MAPK磷酸化

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摘要 目的：了解低浓度N-甲基-N'-硝基-N-亚硝基胍（MNNG）对P38MAPK的影响, 以及谷胱甘肽（GSH）在该信号通路中的调节作用。 方法： 用L-丁硫氨酸-S,R-磺基(L-buthionine-S,R-sulfoximine) 减少细胞谷胱甘肽含量后，采用Western印迹法比较MNNG处理组和对照组P38MAPK磷酸化状态, 观察MNNG对P38磷酸化状态的影响。用光密度扫描仪测定各蛋白质条带吸光值。 “P”为磷酸化P38MAPK的吸收值， “T”为总P38MAPK吸收值。在各时点以对照组磷酸化率P/T为1.0,计算MNNG组的相对磷酸化率。结果： BSO预处理24 h后，MNNG处理2.5 h的相对磷酸化率为0.84，2.5 h处理后换DMEM全培养基3 h的相对磷酸化率2.19。结论： 细胞内GSH含量降低可促进P38MAPK的活性。

关键词 P38MAP激酶； 谷胱甘肽； N-甲基-N'-硝基-N-亚硝基胍

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GSH deletion increases the activity of p38MAPK in MNNG treatment

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Abstract

<FONT face=Verdana>AIM: To explore the effect of low concentration of N-methyl-N-nitro-N-nitroguanidine (MNNG) on p38MAPK, and the function of glutathione (GSH) on p38MAPK. METHODS: Western blotting was applied to detect the p38MAPK phosphorylation in MNNG treatment group and control group. To study the effect of GSH on MNNG-regulated p38MAPK activity, the intracellular GSH level was reduced by pretreatment of L-buthionine-S, R-sulfoximine (BSO). Assuming the absorbance of band in control group as 1.0, the relative P/T values of the treatment groups were calculated, with the “P” served as absorbance values of phospho-p38MAPK and the “T” as absorbance values of total p38MAPK. RESULTS: In BSO pretreated groups，the relative P/T in samples treated with MNNG for 2.5 h was 0.84, and became 2.19 with 3 h more incubation in the fresh medium. CONCLUSION: GSH deletion increases the activity of p38MAPK in MNNG treatment.</FONT>

Key words P38MAP kinase Glutathione N-methyl-N-nitro-N-nitroguanidine

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