

论著

2,5-己二酮对大鼠坐骨神经雪旺细胞神经生长因子及其p75神经营养受体表达的影响

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摘要 目的 研究正己烷代谢产物2,5-己二酮(2,5-HD)对雪旺细胞神经生长因子(NGF)及其p75神经营养受体(p75NTR)表达水平的影响。方法 取新生Wistar大鼠坐骨神经进行雪旺细胞原代培养,采用差速贴壁法和Thy-1.1抗体进行细胞纯化。采用免疫荧光法观察2,5-HD不同染毒浓度和染毒时间雪旺细胞NGF及其p75NTR表达水平的变化,图像分析软件Image-Pro Plus进行定量分析。结果 2,5-HD 5~40 mmol·L⁻¹染毒24 h可以促进雪旺细胞NGF及其p75NTR的表达,呈浓度-效应关系;2,5-HD 10.0 mmol·L⁻¹染毒1~48 h,NGF及其p75NTR表达水平呈先增高后降低的趋势。结论 2,5-HD可以促进雪旺细胞NGF及其p75NTR的表达,这可能是机体的一种自我保护机制,为使用NGF治疗正己烷中毒性周围神经病提供了依据。

关键词 [2,5-己二酮](#) [雪旺细胞](#) [神经生长因子](#) [受体](#), [p75神经营养受体](#)

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Effect of 2,5-hexanedione on expressions of nerve growth factor and p75 neurotrophin receptor in Schwann cells from sciatic nerve of rats

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Abstract

AIM To study the effect of 2,5-hexanedione (2,5-HD), a metabolite of n-hexane, on the expressions of nerve growth factor (NGF) and p75 neurotrophin receptor (p75NTR) in Schwann cells. **METHODS** Primary cultured Schwann cells were obtained from sciatic nerve of newborn rats and purified by method of adhering to plastic in different times and anti-Thy1.1 antibody. The fluoroimmunoassay was used to detect the expressions of NGF and p75NTR and Image-Pro Plus was used to quantify the absorption of cells treated with 2,5-HD. **RESULTS** Compared with the control group, the expressions of NGF and p75NTR in Schwann cells treated with 2,5-HD 5, 10, 20 and 40 mmol·L⁻¹ for 24 h increased in a concentration effect manner. Treated with 2,5-HD 10 mmol·L⁻¹ for 1, 3, 6, 12, 24 and 48 h, the expressions of NGF and p75NTR in Schwann cells were up-regulated soon, and then down-regulated. **CONCLUSION** 2,5-HD increases the expressions of NGF and p75NTR in Schwann cells from sciatic nerve of rats, which may be a self-protection mechanism of body and provide scientific evidence for clinical therapy of chronic hexane poisoning with NGF.

Key words [2,5-hexanedione](#); [Schwann cells](#); [nerve growth factor](#); [receptors](#) [p75 neurotrophin](#)

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