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论文

西玛津对MN9D细胞增殖影响

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摘要：

目的 探讨西玛津（Simazine）对多巴胺能神经前体细胞系（MN9D）细胞增殖的影响。方法 选择MN9D细胞，分别以50、300、600 μmol/L西玛津染毒，同时设溶剂对照及空白对照，采用噻唑蓝（MTT）法检测西玛津对MN9D细胞生存率影响；利用倒置显微镜观察染毒后细胞形态改变。结果 西玛津能破坏体外培养MN9D细胞形态、抑制其生长和分化；高剂量西玛津染毒12、24、36、48、60、72 h时，MN9D细胞存活率分别为（85.62±1.07）%、（71.92±0.43）%、（67.42±0.45）%、（60.04±0.11）%、（48.71±0.76）%、（40.63±0.86）%，与溶剂对照组比较，高剂量西玛津染毒组在染毒各时段细胞存活率均降低（$P<0.01$）；各剂量组细胞存活率随染毒时间增大而下降，并具有剂量-反应关系（$P<0.01$）。结论 除草剂西玛津对MN9D细胞有增殖毒性。

关键词： 西玛津 除草剂 多巴胺能神经前体细胞系（MN9D） 细胞增殖率

Effect of simazine on proliferation of MN9D

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Abstract:

Objective To investigate the effect of simazine on proliferation of MN9D cells.Methods The MN9D cells *in vitro* were treated with simazine at concentrations of 0 μmol/L,50 μmol/L,300 μmol/L,and 600 μmol/L and with 0.5% dimethyl sulfoxide(DMSO)as solvent control.The effect of simazine on the survival rate of MN9D was detected with methyl thiazolyl tetrazolium(MTT)assay.Morphological change of MN9D cells was observed with inverted microscope.Results Simazine damaged the morphology of MN9D cells.Compared to that of the solvent control group,all of the survival rate of MN9D cells in the high dose group(85.62±1.07%,71.92±0.43%,67.42±0.45%,60.04±0.11%,48.71±0.76%,and 40.63±0.86% for 12,24,36,48,60,and 72 hours)decreased significantly($P<0.01$ for all).With the increase simazine dose and exposure time,the survival rate of MN9D cells decreased with a dose-time dependent manner.Conclusion Herbicide simazine has inhibitive effect on proliferation of MN9D cells.

Keywords: simazine herbicide MN9D proliferation rate

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