

论著

高剂量硒诱发姐妹染色单体交换及染色体畸变

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摘要 为阐明正常人体外周血淋巴细胞培养物中加硒的遗传毒性剂量及其毒性特征,用不同剂量的亚硒酸钠处理培养中的淋巴细胞72h,观察其姐妹染色单体交换(SCE)及染色体畸变率的变化。结果显示在培养体系中添加0.05 - 0.25mg/L剂量的亚硒酸钠不增加SCE频率($P > 0.5 - 0.2$)和染色体畸变率($P > 15$),添加0.75 - 1.50 mg/L剂量的亚硒酸钠显著增加SCE频率($P < 0.01$)及染色体畸变率($P < 0.01 - 0.001$),表现出遗传毒性。较高剂量的亚硒酸钠(0.75 - 1.50 mg/L)还可导致染色体形态不良和着丝粒早裂。

关键词 [亚硒酸钠](#) [姐妹染色单体交换](#) [染色体畸变](#)

HIGHDOSE SELENTUM INDUCED SCE AND CHROMOSOME ABERRATION IN HUMAN LYPHOCYTES

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Abstract For the purpose of elucidating the genotoxic dose and genotoxicity characteristics of selenium , healthy human peripheral blood lymphocytes (PBL) in vit ro were t reated for 72h by supplementing with different doses of sodium selenite , then the changes of the f requencies of sister2chromatid exchanges (SCE) and chromosome aberrations were observed. The result s showed that when the culture of PBL was supplemented with sodium selenite at 0.05mg/ L and 0.25mg/ L , the f requencies of SCE and chromosome aberrations were not significantly increased ($P > 0.5$ and $P > 0.3$ respectively) , when at 0.75mg/ L and 1.50mg/ L , the f requencies of SCE and chromosome aberration were increased obviously ($P < 0.01$ and $P < 0.001$ respectively) . High doses of sodium selenite could cause chromosome deform and cent romere segregate premat ruely. It is suggested that high dose selenium possesses mutagenic effect and might possess many other cytotoxic effects.

Keywords [sodium selenite](#) , [sister2chromatid exchange](#) [chromosome aberration](#)

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