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论著

应用32P后标记法检测水中非挥发性有机物的DNA加合物

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摘要 背景与目的：研究自来水中非挥发性有机物(Nonvolatile Organic Compounds，NOCs)与生物样品DNA形成DNA加合物的水平，尝试从分子水平来进一步验证水中NOCs的致突变作用及其机制。材料与方法：应用XAD－2树脂吸附浓缩水中有机物的技术，结合32P后标记法，对武汉东湖自来水中非挥发性有机物与体内外生物样品的DNA形成的DNA加合物进行了检测。结果： 自来水中的NOCs可直接与小牛胸腺DNA反应形成DNA加合物；小鼠经口染毒NOCs后，在其肝脏细胞可检出多个NOCs的DNA加合物。结论：东湖自来水中的NOCs有直接损伤生物体内外DNA、形成DNA加合物的作用。

关键词 自来水；有机物；DNA加合物

Detection of DNA Adduct of Nonvolatile Organic Compoundsin Tap Water by Using Nuclease P1 Mediated 32P－postlabeling Method

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Abstract BACKGROUND & AIM:The DNA adducts of the nonvolatile organic compounds (NOCs) in tap water were studied for further validating genotoxicity of NOCS and its mechanism at molecular level. MATERIAL AND METHODS:The sample of tap water derived from Donghu lake of Wuhan was collected and the nonvolatile organic compounds (NOCs) in water were concentrated on XAD-2 resin. The DNA adducts of such NOCs were examined by using 32P-postlabeling method. RESULTS： Some NOCs-DNA adducts could be found in biological samples including calf thymus DNA reacted with NOCs and liver of male mice treated with NOCs . CONCLUSION: DNA could be damnified by the NOCs in tap water directly， and the DNA adducts of such NOCs were formed in vitro and in vitro test.

Keywords tap water； nonvolatile organic compounds； DNA adduct

DOI

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