



松花粉对衰老小鼠肾脏线粒体DNA缺失突变的影响

投稿时间: 2011-09-08 责任编辑: [点此下载全文](#)

引用本文: 喻陆,史春夏.松花粉对衰老小鼠肾脏线粒体DNA缺失突变的影响[J].中国中药杂志,2012,37(11):1663.

DOI: 10.4268/cjmm20121134

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基金项目:国家自然科学基金项目(30271645)

中文摘要:目的:研究松花粉对衰老小鼠肾脏线粒体DNA(mtDNA)缺失突变的影响。方法:取昆明种衰老小鼠随机分为松花粉处理组和老年对照组,同时随机选取1组为青年对照组。松花粉处理组每天给予750 mg·kg⁻¹的松花粉灌胃,青年对照组与老年对照组以等体积的0.9%氯化钠注射液灌胃。连续60 d后,采用聚合酶链反应(PCR)技术和光密度扫描检测3组mtDNA的缺失突变情况,测定小鼠肾脏组织中SOD活性、MDA含量。结果:老年对照组小鼠肾脏mtDNA含量及mtDNA缺失明显增多($P<0.05$);与老年对照组比较,松花粉组能显著减少衰老小鼠肾脏mtDNA的缺失($P<0.05$)。松花粉能明显增加衰老小鼠肾脏组织中SOD活性及减少衰老小鼠肾脏MDA含量($P<0.05$)。结论:松花粉可以抑制衰老小鼠肾脏mtDNA的缺失突变,提示松花粉能减少mtDNA的氧化损伤,对mtDNA有保护作用,从而从分子水平提供了松花粉延缓衰老的可能机制。

中文关键词:[抗衰老](#) [肾脏](#) [线粒体DNA](#) [松花粉](#)

Effect of pine pollen on kidney mitochondria DNA deletion mutation in senile mice

Abstract:Objective: To study the effect of pine pollen on Kidney Mitochondria DNA Deletion Mutation (mtDNA) in senile mice. Method: Kunming senile mice were randomly divided into the pine pollen group, and the senile control group. And a young control group was randomly selected. Mouse in the pine pollen group were orally administered with pine pollen (750 mg·kg⁻¹) daily. The young control group and the senile control group were orally administered with isometric 0.9% sodium chloride injection. After 60 days, deletion mutation of mtDNA were detected by PCR technology and photodensity scan. Relative level of MDA and activity of SOD in kidney tissues were detected. Result: The senile control group showed significant increase in relative level and deletion mutation of mtDNA ($P<0.05$). Compared with the senile control group, the pine pollen group showed decreased depletion of kidney mtDNA ($P<0.05$). Pine pollen can decrease MDA volume and increase the activity of SOD significantly ($P<0.05$). Conclusion: Pine pollen can inhibit deletion mutation of mtDNA in senile mice, suggesting that pine pollen can reduce oxidative damage of mtDNA and protect mtDNA. Accordingly, it provides a possible mechanism of anti-aging effect of pine pollen at the molecular level.

keywords:[anti-aging](#) [kidney](#) [mtDNA](#) [pine pollen](#)

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