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论著

SAM肝细胞色素P450 3A 对衰老的作用

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摘要 大鼠肝细胞色素P450 含量与年龄相关的变化是由特异的细胞色素P450 酶引起的。探讨衰老与细胞色素P450 3A(CYP3A) 的活性是否有关,本文用红霉素N - 脱甲基酶活性测定法分别检测了SAM - R1 、SAM - P1 和SAM - P8 三组衰老加速鼠(SAM) 中肝微粒体细胞色素P450 3A 的活性,每组动物分为7wk、13wk、36wk 组。结果发现SAM - P1 和SAM - P8 组中随年龄增长,CYP3A 的活性均降低。13wk 时, SAM - P1 组CYP3A 活性下降3915 %(t = 2. 525 , P < 0. 05) ; SAM - P8 组CPY3A 活性下降约4317 %(t = 2. 24 , P < 0. 05) ,36wk 与13wk 组相比,SAM - P1 组CYP3A 活性下降约7113 %(t = 2. 84 , P< 0. 02) ,SAM - P8 组中降低约62. 9 %(t = 3. 21 , P < 0. 01) ,SAM - R1 组中7 至13wk 时降低约1316 % ,13wk 至36wk 降低约3812 % , t = 2. 37 , P < 0. 05。提示细胞色素P450 3A 对衰老有重要影响作用。

关键词 细胞色素P450 3A 衰老加速鼠 衰老

EFFECT OF AGING ON THE ACTIVITY OF CYP3A IN THE SENESCENCEACCELERATED MOUSE(SAM) LIVERS

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Abstract Aging2related changes have been evaluated in hepatic cytochrome P450 content in rat s by specific cytochrome P450 enzymes. To determine whether senescence is concerned with CYP3A activity , the activities of the SAM hepatic cytochrome P450 3A (CYP3A) were quantified in vit ro as erythromycin N2demethylation in microsomes prepared f rom SAM2R1 、SAM2P1 and SAM2P8 , espectively , at 7 、 13 and 36 weeks of age in every animal group. We found CYP3A activity was decreased with advancing age in SAM2P1 and SAM2P8 . At 13weeks of age , CYP3A activity was about 39. 5 % lower (t = 2. 525 , P < 0. 05) in SAM2P1 and about 43. 7 % lower (t = 2. 24 , P < 0. 05) in SAM2P8 . Compared with 36 to 13 weeks of age these two groups , CYP3A activity was decreased approximately 71. 3 % (t = 2. 84 , P < 0. 02) in SAM2P1 and 62. 9 % (t = 3. 21 , P < 0. 01)in SAM2P8 . It w as no signif icant dif f erences f rom 7 to 13 weeks of age in SAM2R1 , but f rom 13 to 36 weeks of age , it w as decreased about 38. 2 % (t = 2. 37 , P < 0. 05)) . Taken together , the data suggest that CYP3A takes very important effect to senescence.

Keywords Cytochrome P450 3A(CYP3A) Senescence2accelerated mouse (SAM) Senescence

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