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论著

野生型stathmin 1及其C末端突变体的功能研究

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摘要 目的： 研究stathmin 1过表达对黑色素细胞的生长和功能的作用；探讨C末端7个氨基酸残基的突变对stathmin 1生物功能的影响。方法: 构建stathmin 1克隆载体及其C末端定点突变载体。转染载体到黑色素细胞中，MTT、流式细胞仪、分光光度法等研究野生型以及突变型stathmin 1对于黑色素细胞生长以及细胞特异性功能的影响。结果: 成功构建含有野生型stathmin 1的克隆载体pAdTrack-stathmin 1及其定点突变载体pAdTrack-stathmin 1-mut；MTT法和流式细胞仪检测到突变型和野生型stathmin 1 都能有效抑制黑色素细胞生长、诱导细胞凋亡；分光光度法检测黑色素细胞特异性功能黑色素产量以及酪氨酸酶活性因stathmin 1的转染而受到明显影响。结论: Stathmin 1稳定表达对于黑色素细胞的生长有重要意义，高表达可以抑制细胞生长以及细胞特异性功能，C末端模序结构的破坏并不能影响stathmin 1的生物学功能。

关键词 Stathmin 1 定点突变 黑素细胞

分类号 R363

Functions of wild stathmin 1 and the C terminal mutant

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Abstract

<FONT face=Verdana>AIM: To illustrate the effects of overexpression of stathmin 1 on melanocyte growth and the relationship between C terminal motif and stathmin 1 function.METHODS: The overexpression vector and C terminal mutant coding vector were constructed. The vectors were transfected into melanocytes by Lipofectamine 2000. MTT and FCM were used to inspect the cell growth, Western blotting was a tool in caspase-3 measurement, and spectrophotography was used to detect the melanin products and tyrosinase activity.RESULTS: The vectors of overexpression and mutation were constructed and transfected into melanocytes successfully. Both of them inhibited the melanocyte growth, induced apoptosis, and decreased the melanin products and tyrosinase activity.CONCLUSION: Overexpression of stathmin 1 inhibits melanocyte growth, melanin products and tyrosinase activity. The change of C terminal motif could not affect the role of stathmin 1 in melanocyte markedly. </FONT>

Key words Stathmin 1 Site-directed mutation Melanocytes

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