



一类新的AP-2 α 转录共激活物Ku 70蛋白的鉴定

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Identification of ku70 as a Novel Transcriptional Coactivator of AP-2 α

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摘要 目的

鉴定新的AP-2 α 转录共激活物, 为乳腺癌的防治寻找新的靶点。

方法

以AP-2 α 为诱饵采用酵母双杂交技术寻找新的AP-2 α 结合蛋白, 免疫共沉淀证实AP-2 α 与其结合蛋白的相互作用, 免疫荧光技术检测AP-2 α 与其结合蛋白的亚细胞共定位。荧光素酶报告基因检测AP-2 α 结合蛋白对AP-2 α 转录活性的影响。

结果

酵母双杂交技术鉴定出Ku 70蛋白为新的AP-2 α 结合蛋白。免疫共沉淀证实了AP-2 α 和Ku 70蛋白在细胞内的相互作用。亚细胞共定位研究显示AP-2 α 和Ku 70蛋白都定位于细胞核内。在功能上发现Ku70可以增强AP-2 α 的转录活性。

结论

本研究首次揭示Ku70可以结合AP-2 α 并促进其转录活性, 证明Ku70是一类新的AP-2 α 的转录共激活物, 提示Ku70有望成为治疗AP-2 α 高表达乳腺癌的新靶点。

关键词: AP-2 α 酵母双杂交 Ku70 转录共激活物

Abstract: Objective

To identify a novel transcriptional coactivator of AP-2 α and explore new therapeutic target for AP-2 α overexpressed breast cancers.

Methods

AP-2 α , as a bait, and its interactive proteins were detected by yeast two hybrid technique. The interaction between AP-2 α and its interacting partner was verified by co-immunoprecipitation assay. The subcellular colocalization of AP-2 α and its interacting partner was detected by immunofluorescence technique. Luciferase assay was performed to characterize the effect of AP-2 α interacting protein on the transcriptional activity of AP-2 α .

Results

Ku70 was identified as a novel interactive protein of AP-2 α by yeast two hybrid technique. The interaction between AP-2 α and Ku70 in cells was verified by co-immunoprecipitation assay. Furthermore, both AP-2 α and Ku70 are colocalized in nucleus. Functionally we found that Ku70 can increase transcriptional activity of AP-2 α .

Conclusion

This study for the first time reveals that Ku70 can bind with AP-2 α and enhance its transcriptional activity. Our results demonstrate that Ku70 is a novel transcriptional coactivator of AP-2 α and suggest that Ku70 is a potential new therapeutic target for AP-2 α overexpressed breast cancers.

Key words: AP-2 α Yeast two-hybrid Ku70 Transcriptional coactivator

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