中国医学科学院学报 2006 28 (5): 695-699 ISSN: 1000-503x CN: 11-2237/R

论著

8B7血影蛋白—血影蛋白家族的一个新成员

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收稿日期 2005-11-11 修回日期 网络版发布日期 2006-10-25 接受日期

摘要 摘要：目的 分析8B7cDNA编码的蛋白质的性质及其在细胞中的定位。方法 用Blastn、Blastp及TMpred分析8B7cDNA编码的蛋白质的性质。采用Northern印迹分析8B7mRNA在细胞和组织中的表达。构建重组定位表达载体,转染COS-7细胞,激光扫描共聚焦显微镜观察细胞中EGFP-8B7融合蛋白的表达。结果 8B7cDNA编码的蛋白质长363个氨基酸,分子中有血影蛋白重复序列,它与Enaptin蛋白、Nasprin-1蛋白、Myne 1蛋白及Syne-1蛋白的C末端363个氨基酸序列100%同源,是血影蛋白家族的一个新成员,故称8B7血影蛋白。Northern印迹分析,可见人脾脏和小肠组织有1.8kb的8B7mRNA表达。定位实验见COS-7细胞的核膜有荧光,胞浆中也见网状的荧光。转染pEGFP-SR8B7的COS-7细胞中发射荧光的部位与转染pEGFP-8B7cDNA的细胞相似。结论 8B7cDNA编码的蛋白质是血影蛋白家族的一个新成员,用COS-7细胞所做的定位实验证实其定位于细胞的核膜和胞浆中的网状结构,是8B7血影蛋白C端的KASH结构域决定了其在COS-7细胞中的定位。

关键词 8B7cDNA 血影蛋白 核膜 定位

分类号

8B7 Spectrin—a New Member of Spectrin Family

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Abstract ABSTRACT:Objective To analyze the nature of the protein encoded by 8B7cDNA (1835bp) and to examine the localization of the protein in cells. Methods The nature of the protein was analyzed using Blastn, Blastp, and TMpred. Expressions of 8B7 mRNA in tissues and cells were examined by Northern blotting. Recombinant expression vectors for localization test were constructed and transfected into COS-7 cells. Fluorescence emission in cells was examined upon a laser scan confocal microscope. Results The protein encoded by 8B7cDNA was 363 amino acids long and contained spectrin repeats. It was completely homologous to the C-terminal 363 amino acids of Enaptin, Nasprin-1, Myne1, and Syne-1 proteins. It belonged to Spectrin super-family and was called 8B7 spectrin. Northern blotting revealed a 1.8 kb mRNA expression in human spleen and small intestine tissues. EGFP-8B7 fusion protein was observed to express on the nuclear membrane and in the cytoplasm in a reticular form in a localization assay on COS-7 cells. The position of fluorescence in COS-7 cells transfected with pEGFP-SR8B7 was similar to that in the cells transfected with pEGFP-8B7cDNA. Conclusions 8B7 spectrin is a novel member of spectrin super-family. It localizes to the nuclear membrane and the cytoplasm in a reticular form in COS-7 cells. The localization is determined by the C-terminal KASH domain in 8B7 spectrin molecule.

Key words 8B7cDNA spectrin nuclear membrane localization

DOI:

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