

BRCA1基因结构及其在乳腺癌中的表达

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摘要 利用RT-PCR技术从乳腺组织分离到抑癌基因BRCA1的cDNA片段, 将此914bp的片段克隆进质粒pUC118, 并经全序列测定证实。序列分析表明, BRCA1 cDNA编码的肽链NH2-末端有一锌指结构, 抑癌基因BRCA1的产物可能是DNA结合蛋白, cDNA序列存在两个变异位点: 一个是第409位的C→A(Asp→Glu); 另一个是第879位的A→T(Ala同义突变)。以该片段为探针, 检测6例乳腺癌组织中BRCA1 mRNA表达, 一例表达明显下降, 一例没检测到表达的mRNA产物, 说明一些乳腺癌组织的BRCA1基因转录水平降低。

关键词 [乳腺癌](#) [抑癌基因BRCA1](#) [RT-PCR](#) [cDNA序列分析](#) [Northern印迹分析](#)

分类号

Cloning of BRCA1 cDNA and Detection of BRCA1 mRNA Expression in Breast Cancer Cells

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Abstract

The fragment of BRCA1 cDNA obtained by reverse transcription and polymerase chain reaction (RT-PCR) was inserted in to plasmid pUC118 and demonstrated by DNA sequencing. Nucleotide sequence analysis demonstrated that the cloned cDNA for BRCA1 includes zinc finger domain. Two differences in nucleotides were found as compared with the sequences published. One occurs at nucleotide number 409 where C replaced by A(Asp→Glu). Another difference occurs at nucleotide number 879 where A replaced by T(samesense mutation). In order to further study the relationship-between BRCA1 function and breast cancer, the probe was prepared from the recombinant plasmid and then hybridized to total RNAs from 6 cases of breast cancer. Compared with normal cells, the expression level of BRCA1 mRNA was normal in 4, decreased markedly in 1, and in one patient there was no any expression of BRCA1 mRNA at all. The results suggested that the expression of BRCA1 mRNA was relatively low in some breast cancer cells.

Key words [Breast cancer](#) [Suppressor gene BRCA1](#) [RT-PCR](#) [cDNA sequence](#) [Northern blot analysis](#)

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