生物化学与生物物理进展
Progress in Biochemistry and Biophysics

NGAL基因在永生化食管上皮细胞恶性转化中过表达的研究

Study of Neutrophil Gelatinase-assiciated Lipocalin(NGAL) Gene Overexpression in the Progress of Malignant Transformation of Human Immortalized Esophageal Epithelial Cell

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英文关键词：neutrophil gelatinase-assiciated lipocalin(NGAL)　cDNA microarray　differentially expressed gene　esophageal cancer

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中文摘要：

为研究NGAL（neutrophil gelatinase-associated lipocalin）基因在永生化食管上皮细胞恶性转化中的表达情况，以永生化食管上皮细胞系SHEE和食管癌细胞系SHEEC互为对照，用cDNA微列阵进行筛选，用RNA印迹和RT-PCR进行鉴定，cDNA克隆测序后与GenBank进行BLAST分析比较.结果表明NGAL基因在SHEEC中出现显著差异过表达，其cDNA序列与小鼠24p3、大鼠NRL（neu-related lipocalin）、人中性粒细胞NGAL和卵巢癌NGAL具有较高的相似性.这提示NGAL基因在永生化食管上皮细胞恶性转化中可能发挥着重要作用，可能是一种新的癌基因或促癌基因.

英文摘要：

In order to study the neutrophil gelatinase-assiciated lipocalin(NGAL)gene expression character in the progress of malignant transformation of human immortalized esophageal epithelial cell, differentially expressed NGAL gene was identified by using cDNA microarray in the human immortalized esophageal epithelial cell line(SHEE) and malignant transformed esophageal cancer cell line(SHEEC). NGAL expression profile was further confirmed by Northern blot and RT-PCR. A cDNA encoding NGAL from SHEEC was amplified by PCR and sequenced. Alignment was analyzed by NCBI database. The results indicated that NGAL gene was overexpressed in the SHEEC. The coding region cDNA of NGAL from SHEEC was cloned and identified. Alignment of its deduced amino acid sequence compared to the mouse 24p3 protein, the rat neu-related lipocalin(NRL), the human NGAL from neutrophil and ovarian cancer demonstrated a very high degree of conservation. It can be concluded that NGAL overexpression possibly played an important role in the progress of malignant transformation of human immortalized esophageal epithelial cell. NGAL may be a new oncogene or promoter-tumor gene.

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