Analysis of differentially expressed genes in neuroendocrine carcinomas of the lung.


Department of Pathology, Institute of Basic Medical Sciences, Graduate School of Comprehensive Human Sciences, University of Tsukuba, Ibaraki, Japan.

Abstract

**INTRODUCTION:** Large cell neuroendocrine carcinoma (LCNEC) and small cell lung carcinoma (SCLC) show considerable differences in their histology but share neuroendocrine (NE) characteristics and also genetic and/or expression patterns.

**METHODS:** We used the subtractive expression method to identify differences in gene expression that would allow discrimination between these two types of NE lung carcinoma.

**RESULTS:** Eight cDNA fragments were transcribed at a higher level in LCNEC compared with SCLC, and these corresponded to five mitochondrial genes, two ribosomal genes, and one fetal regulation factor, neuronatin (NNAT). Immunohistochemically, NNAT protein was detected in 43% (6/14) of LCNECs but in only 8% (1/13) of SCLCs (p < 0.05). Positive staining for NNAT was observed in areas that did not show the NE morphology, such as palisading and rosettes.

**CONCLUSIONS:** The present results suggest that NNAT has the potential to be used as a differential maker between LCNEC and SCLC.

PMID: 17409960 [PubMed - indexed for MEDLINE]