

# 学位論文抄録

食道扁平上皮癌におけるWISP-1発現の意義  
(The Expression and Clinical Significance of Wnt-induced Secreted Protein-1 (WISP-1/CCN4)  
in Esophageal Squamous Cell Carcinoma)

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## Abstract of the Thesis

**Background and purpose:** Wnt-induced secreted protein-1 (WISP-1/CCN4), a member of the CCN family, has been examined in several cancers recently. However, the correlation of WISP-1 expression and clinical features of esophageal squamous cell carcinoma (ESCC) remains unknown. The aim of this study is to clarify the expression of WISP-1 protein in patients with ESCC, and also to examine the function of WISP-1 on esophageal cancer cells in vitro.

**Methods:** One-hundred and ninety consecutive patients with thoracic esophageal carcinoma underwent transthoracic subtotal esophagectomy between 2005 and 2009. In this study, the patients with previous therapy were excluded, and 105 of the 190 ESCC samples were analyzed immunohistochemically using WISP-1 antibody. The expression of WISP-1 mRNA in esophageal cancer cell lines was analyzed by RT-PCR. Growth assay and invasion assay was performed using WISP-1 transfected cells.

**Results:** Immunohistochemical analysis showed that WISP-1 positive cases were closely associated with tumor size, tumor type, lymph node metastasis, and worse prognosis. In infiltrative type tumor, there were significantly more WISP-1 positive tumors than expanding type tumors. In esophageal cancer cell lines, only TE8 expressed WISP-1 mRNA among the cell lines examined. The growth of WISP-1 transfected cells significantly increased compared to the control cells, but there were no differences in invasion activity between transfected and control cells.

**Conclusions:** The expression of WISP-1 may play an important role in progression of ESCC. WISP-1 could be a clinical marker for poor prognosis of patients with ESCC and also can be a candidate of therapeutic targets to control the progression of ESCC.