学位論文要約
Extended Summary in Lieu of the Full Text of a Doctoral Thesis

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学位論文題目：　Expression of TMEM207 in Colorectal Cancer: Relation between TMEM207 and Intelectin-1
Thesis Title

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Summary of Thesis

Recent research advances highlighted an intestinal goblet cell-produced lectin, intelectin-1 (also known as omentin-1), as a tumor suppressor. One study indicated that downregulation of intelectin-1 may be related to the unfavorable prognosis among patients with colorectal carcinoma at an advanced stage. The present study was aimed at analyzing the expression of a hitherto uncharacterized transmembrane protein TMEM207 in colorectal carcinoma, and we found that the TMEM207 function is linked to intelectin-1 processing. With specific antibodies, TMEM207 immunoreactivity was detected in 38 of 216 colorectal cancer tissue samples. TMEM207 immunoreactivity correlated inversely with lymph node metastatic status ($p < 0.01$). TMEM207 expression significantly correlated with the mucinous phenotype of colorectal carcinoma. A coimmunoprecipitation assay revealed an interaction between intelectin-1 and TMEM207 in colorectal cancer cells. A proximal ligation assay indicated that intelectin-1 and TMEM207 were colocalized to the cytoplasm of the colorectal cancer cells. A small-interfering-RNA-mediated knockdown of TMEM207 increased polyubiquitination and proteasome degradation of intelectin-1 in cultured colorectal cancer cells and decreased intelectin-1 secretion. These findings indicate that a loss of TMEM207 expression leads to insufficient intelectin-1 production thus promoting colorectal carcinogenesis.