NU Tech
Technology Partnership of Nagoya University, Inc.

(A-59)

Novel Biomarkers and Agents to Screen Molecular-Targeted Therapeutics for Peritoneal Metastasis from Gastric Cancer

Background:

Advanced Gastric Cancer (GC) frequently recurs because of undetected micro-metastases even after curative resection. Peritoneal metastasis has been the most frequent pattern after gastrectomy and is incurable.

Technology Overview:

NU Researchers identified Synaptotagmin VIII (SYT8) as a candidate biomarker specific to peritoneal metastasis. SYT levels above the cut-off value (0.005) were significantly and specifically associated with peritoneal metastasis, and served as an independent prognostic marker for peritoneal recurrence-free survival of patients with stage II/III GC.

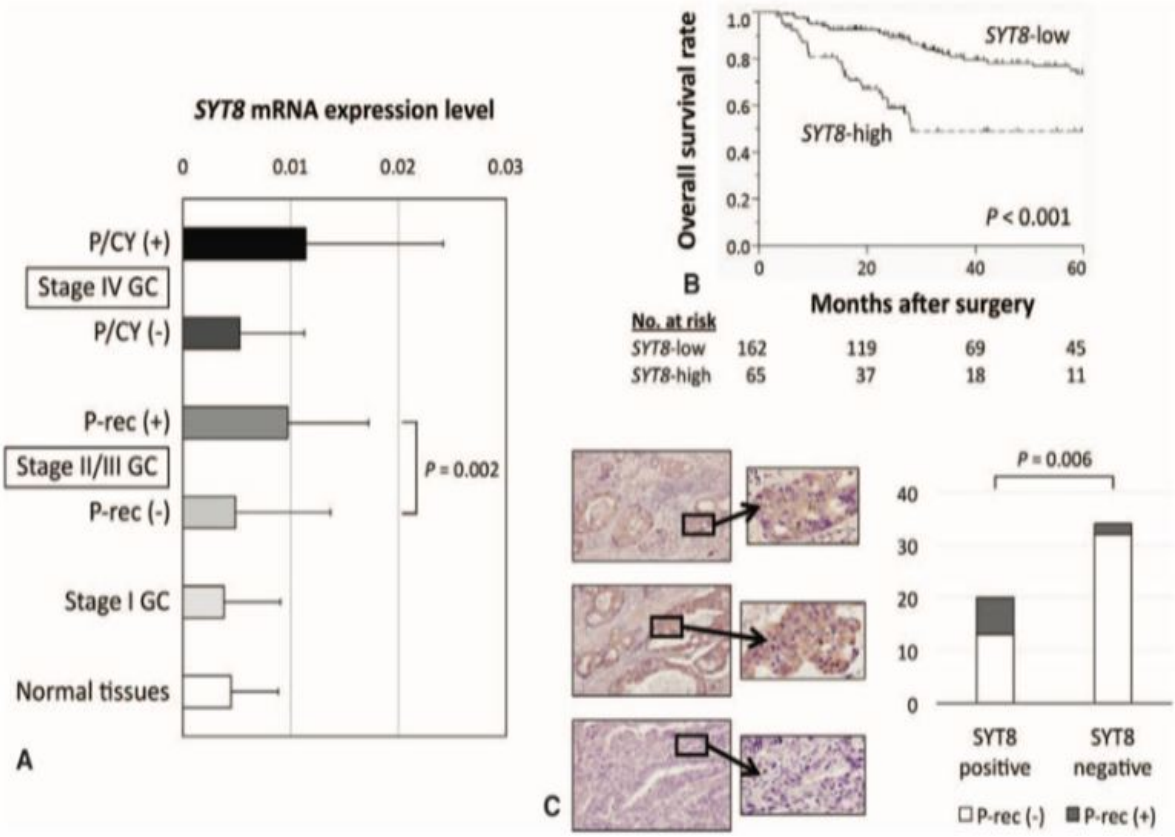

Figure 1: Evaluation of SYT8 levels in the validation set. (A) The levels of SYT8 mRNA in corresponding adjacent noncancerous and GC tissues according to disease stage and the presence or absence of peritoneal recurrence/metastasis. (B) The SYT8-high group was more likely to have a worse prognosis compared with that of the SYT8-low group. (C) Representative results of immuno-histochemistry analysis of SYT8. Upper and middle panels, SYT8 expression in the cancerous component. Lower panel, tissue section with undetectable SYT8 expression. The prevalence of peritoneal recurrences was significantly higher in patients with SYT8 expression compared with those with undetectable SYT8 expression. GC, gastric cancer; P-rec, peritoneal recurrence; P/CY, peritoneal metastasis or positive cytology.

Contact

Rena Shimizu, Ph.D., TEL: 919-535-8724 Email: rshimizu@tpnu.org
Technology Partnership of Nagoya University, Inc.
One Copley Parkway, Suite 305, Morrisville, NC 27560

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Research at Nagoya University also indicates that Anosmin-1 (ANOS1) enhances the malignant phenotype of GC cells and that it may represent a novel predictor for patient prognosis, both in gastric tissues and serum samples, and a target of molecular therapy in gastric cancer.

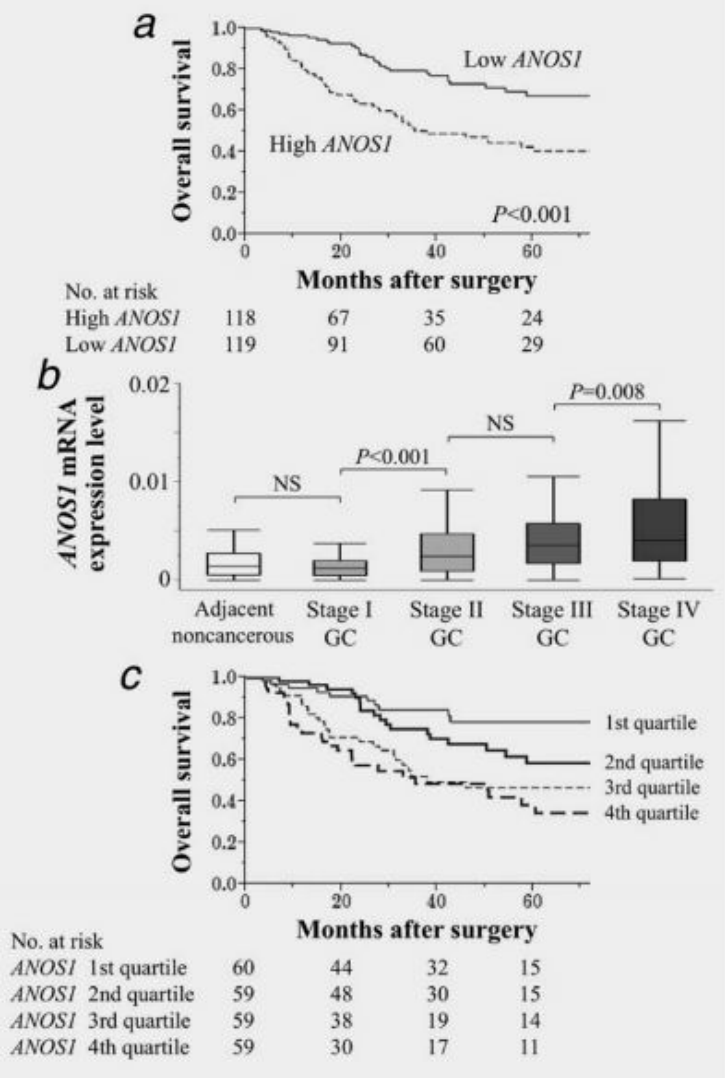

Figure 2: The prognostic value of tissue levels of ANOS1. (a) Patients in the high ANOS1 expression group were more likely to survive for shorter times compared with those in the low ANOS1 expression group. (b) After subdividing patients according to UICC stage, mean ANOS1 expression levels were elevated along with UICC stage. (c) Overall survival curves as a function of ANOS1 expression levels in GC tissues. NS, not significant.

Further Details:

Annals of Surgery, Kanda *et al*., 2016
International Journal of Cancer, Kanda *et al*., 2016

IP Status:

An international patent application PCT/JP2016/056788 has been filed.

Contact

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