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## Gastric cancer therapy by targeting erythroid proteins

**Guo-Hui Fu** Shanghai Jiao Tong University, China

**E** pidemiological studies have shown that gastric cancer (GC) is the fourth most common cancer and remains the second most common cause of cancer related death in the world. Due to limitations of the surgery treatment and chemotherapeutic regimens on the overall survival in patients with GC, more and more patients are resorting to molecular diagnosis and biological treatment. Our group revealed that hematopoietic stem cells can be planted in the gastric mucosa and then differentiated into gastric epithelial cells via suppressing innate erythroid proteins and simultaneously inducing the *de novo* expression of epithelial proteins. Erythroid protein such as band 3 was normally silenced at the protein level at gastric mucosa but was induced under the precancer condition such as HP infection or chronic atrophic gastritis, indicating the expression of erythroid proteins is a key event during the malignant transformation of hematopoietic stem cells at gastric mucosa. We also demonstrated that the expression of erythroid proteins is closely correlated with human GC progression by interrupting the cell cycle regulation and inhibiting the gastric acid secretion. Therefore, the erythroid proteins are the molecular markers for GC diagnosis especially for the poorly-differentiated type of GC. Our group further revealed that gastrin treatment lessened the malignancy of poorly differentiated GC cells by suppressing erythroid protein expression, promoting acid secretion and inactivating Wnt/ $\beta$ -catenin pathway. In addition, co-treatment of gastrin and trastuzumab (HER2-targeted drug for GC) synergistically inhibited the HER2-negative cells. The results provided new markers for GC diagnosis and broaden the therapeutic range of trastuzumab in GC.

## Biography

Guo-Hui Fu has completed her MD at the age of 20 from Jiamusi Medical College, China and then completed PhD from Harbin Medical University, China and postdoctoral studies from Kyushu University school of Medicine, Japan. She is the Dean and Professor of Pathology Center, Shanghai Jiao Tong University School of Medicine. She has published more than 81 papers in reputed journals and has been serving as an editorial board member of repute.

fuguhu@263.net, caishen\_111@126.com