

Full text open access online (Since 2001)

©  Kamla-Raj IJHG 2026

PRINT: ISSN 0972-3757 ONLINE: ISSN 2456-6330

Int J Hum Genet, 26(1): 37-45 (2026)
DOI: 10.31901/24566330.2026/25.01.910

FAM117B Modulates the EGFR/ERK Signalling Pathway to Affect Gastric Cancer Cell Proliferation and Invasion

**Baisheng Chen^{1#}, Ying Zhou^{2#}, Xia Wu³, Qi Jiang⁴, Ping Li⁵, Liqing Yao⁶,
Zhipeng Zhu⁷ and Weifeng Chen^{8*}**

^{1,2,3,4,5,6,8}*Endoscopic Center of Zhongshan Hospital (Xiamen), Fudan University, Xiamen
361000, Fujian Province, China*

^{1,2,3,4,6,8}*Clinical Research Center for Precision Medicine of Abdominal Tumor of Fujian
Province, Xiamen 361000, Fujian Province, China*

^{5,6,8}*Endoscopic Center of Zhongshan Hospital, Fudan University, Shanghai 200030, China*

⁷*College of Pulmonary and Critical Care Medicine, 8th Medical Center, Chinese PLA General
Hospital, Beijing 100089, China*

⁷*Department of Pulmonary and Critical Care Medicine, 7th Medical Center, Chinese PLA
General Hospital, Beijing 100007, China*

KEYWORDS Cell Proliferation. Epidermal Growth Factor Receptor. FAM117B. Neoplasm Invasiveness. Stomach Neoplasms

ABSTRACT This study aimed to elucidate the role of family with sequence similarity 117 member B (FAM117B) in regulating gastric cancer (GC) cell proliferation, invasion, and apoptosis through the epidermal growth factor receptor (EGFR)/extracellular signal-regulated kinase (ERK) signalling pathway. GC cells with FAM117B knockdown were treated with the EGFR pathway activator NSC228155, and cellular behaviours and pathway activation were evaluated using proliferation, colony formation, invasion, apoptosis assays, and Western blot analysis. FAM117B silencing significantly suppressed cell proliferation and invasion while promoting apoptosis, accompanied by reduced phosphorylation of EGFR, Raf1, MEK, and ERK. These effects were partially reversed by NSC228155 treatment. Collectively, the findings indicate that FAM117B promotes malignant phenotypes of GC cells by activating the EGFR/Raf/MEK/ERK signalling pathway and may represent a potential therapeutic target.