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Effects of targeting SLC1A5 on inhibiting gastric cancer growth and tumor development in vitro and in vivo

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Aims: To investigate the oncogenic effects of SLC1A5 on gastric cancer development in vitro and in vivo.

Methods: The expression level of SLC1A5 was detected in 70 gastric cancer paraffin-embedded tissues by immunohistochemistry and in gastric cancer cell lines by qRT-PCR and western blotting analysis. The effects of knockdown SLC1A5 were analyzed on cell proliferation, cell cycle, the ability of cell migration and invasion and growth signaling pathways in vitro. By using subcutaneous xenograft mouse, the importance of SLC1A5 expression was assessed for both successful engraftment and growth of gastric cancer cells in vivo.

Results: SLC1A5 is up-regulated in gastric cancer tissues and is correlated with malignant features such as deeper local invasion, higher lymph node metastasis, advanced TNM stages and higher Ki-67 expression. Knockdown SLC1A5 in gastric cancer cells suppressed cell proliferation, caused G0/G1 arrest, inhibited cell invasion and migration partly by inactivated mTOR/p-70S6K1 signaling in vitro. Furthermore, in vivo experiments indicated that suppression of SLC1A5 could inhibit relative volume of xenografted tumor.

Conclusions: Our results suggest that SLC1A5 may represent a new biomarker and be a potential therapeutic target in gastric cancer.

Biography

Chen Min has completed her PhD from Wuhan University, School of Medicine. She is an associated Physician working in the affiliated Drum Tower Hospital of Nanjing University, Medical School, P R China for almost seven years. She is In Charge of teaching work in the Department as Teaching Secretary. She has published more than 10 papers in reputed journals. Her research field is about basic and clinical research in gastric cancer.

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