

中文題目：HDGF 在胃癌癌化過程中的角色

英文題目：To investigate the influence and mechanism of hepatoma-derived growth factor (HDGF) on gastric cancer progress

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**Background:** The death rate of gastric cancer ranks third in the world, and it is also the top ten cause of cancer death in Taiwan. Mesenchymal stem cells (MSCs) have been shown to be highly probable sources of differentiation of tumor stem cells and tumor-associated fibroblasts, and are a key factor in the tumor microenvironment. For the early diagnosis and treatment of gastric cancer, the etiology and mechanism of cancer remain to be explored.

**Method:** Helicobacter pylori (H. pylori) strain ATCC 49503 was used for AGS cells in co-culture experiments. RT-Q-PCR assays were used to detect myofibroblast markers. Invasive cells through the membrane filter were measured microscopically. The influences of HDGF on gastric cancer cells were observed. HDGF-regulated motility of gastric cancer cell was measured. Stat3 and ERK1/2 inhibitors were further used to observe the mechanism behind HDGF-induced gastric cancer cell motility and spheroid formation.

**Results:** We observed that (i) HDGF was abundantly expressed in H. pylori-infected gastric tissue and gastric precancerous lesions and gastric epithelial cells. (ii) The STAT3 and ERK1/2 signaling pathways regulates HDGF-promoted gastric cancer cell invasion and 3D spheroid formation. (iii) HDGF-recruited MSCs increase invasive motility of gastric cancer cells.

**Conclusion:** These results might demonstrate the role of HDGF in gastric cancer progression through modifying the tumor microenvironment.