

中文題目: HOXA9 調節胃癌細胞激素受體表現與胃癌移動

英文題目: HOXA9 regulates expression of cytokine receptor and motility capacity in human gastric cancer cells

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Background: Epidemiological studies report that gastric cancer is one of the most common cancers worldwide, and is also the second leading cause of cancer-related mortality. The poor prognosis of gastric cancer may be partly attributed to the complicated molecular networks operating the aggressiveness of gastric cancer. Although a large body of studies has revealed the deregulation of certain genes in gastric carcinogenesis, the molecular mechanisms behind gastric tumor development are not yet fully understood.

Method and Material: We applied the HOXA9 short hairpinRNA (shRNA) to successfully knock down the expression of *HOXA9* gene and subsequently explore the role of *HOXA9* in CS12 gastric cancer cells. We co-cultured CS12 cells (control shRNA-stable CS12 or HoxA9 shRNA-stable clones) and HBM_MSCs, and then respectively measured the motility of CS12 cells and HBM_MSCs in the co-culture system. We also observed the expression of cytokine receptors in CS12 cells.

Result: We further found that cytokines and chemokines secreted from human bone marrow mesenchymal stem cells (HBM_MSCs) induce cell motility in human CS12 gastric cancer cells. The motility of CS12 cells mainly were promoted by IL-6, IL-8 and/or CXCL-1. When applying *HOXA9* shRNA in CS12 cells to silence *HOXA9* expression, we observed that *HOXA9* knockdown inhibits the expression of cytokine receptor, HBM_MSCs-induced CS12 cell motility, and even reduces CS12 cells-enhanced the capacity of motility in HBM_MSCs.

Conclusion: This study demonstrated that suppressing HOXA9 expression can reduce the expression of cytokine receptor and motility capacity in human gastric cancer cells.