

中文題目: MIF 蛋白調控間質幹細胞參與胃癌細胞之惡化

英文題目: MIF mediates human mesenchymal stem cells-induced the malignancy of 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. Mesenchymal stem cell (MSC), a type of stem cell, is shown that it might be involved in cancer metastasis. Here we will investigate the role of MIF in human mesenchymal stem cell-mediated motility and sphere formation in human gastric cancer.

Method and Material: We analyze the cytokines in the co-culture of human gastric cancer cells and human bone marrow mesenchymal stem cells (HBMMSCs). The motility of gastric cancer cells was measured using modified Boyden chambers with filter inserts for 24-well dishes containing 8- μ m pores. The sphere formation of gastric cancer cells also was observed. Recombinant MIF protein was used to measure the effect on motility and sphere formation in gastric cancer cells.

Result: The results from human cytokine arrays showed that HBMMSCs notably secrete MIF protein. Treatment of recombinant MIF confirmed the role of MIF in mediating HBMMSCs-upregulated cell motility and sphere formation.

Conclusion: These results suggest that MIF significantly mediates BMMSCS-induced motility and sphere formation in human gastric cancer cells.