

中文題目: 探討 HDGF 如何調節間葉幹細胞分化為腫瘤纖維母細胞

英文題目: Hepatoma-derived growth factor (HDGF) regulates the differentiation of mesenchymal stem cells (MSCs) into cancer-associated fibroblasts(CAFs)

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Background: Epidemiologic studies have reported that gastric carcinoma is one of the most prevalent cancers worldwide, and is the secondary leading cause of cancer-related mortality because of the poor prognosis of patients. Hepatoma-derived growth factor (HDGF) gene may be the candidate gene involved in human gastric cancer development. Cancer-associated myofibroblasts and fibroblasts are involved in the cancer development. Here we will investigate the role of HDGF in the differentiation of mesenchymal stem cells (MSCs) into cancer-associated fibroblasts (CAFs).

Method and Material: We treated the MSC in the different recombinant HDGF concentration (1,10, 50 and 100 ng/ml) for 1 day or HDGF concentration (10 ng/ml) for 1,2,3 ,4, 5 days. We subsequently measure the markers of myofibroblast and fibroblast such as alpha-SMA, procollagen alpha-1 (I), tropomyosin I, desmin, PHA1, FSP1

Result: HDGF significantly induces the expression of myofibroblasts and fibroblasts genes such as alpha-smooth muscle actin(α -SMA), procollagen α 1(I), tropomyosin I, desmin in myofibroblasts, and proly4-hydroxylase A1(PHA1), fibroblast- specific protein 1 (FSP1) in fibroblasts.

Conclusion: Hepatoma-derived growth factor (HDGF) regulates the differentiation of mesenchymal stem cells (MSCs) into cancer-associated fibroblasts (CAFs), which may be involved in the gastric cancer development.