Yan-Shen Shan, M.D., Ph.D. 沈延盛 博士
Laboratory of GI Clinical Oncology, Cancer and Inflammatory Medicine, Liver Fibrosis and Regeneration
胃腸臨床腫瘤、癌症及炎症醫學、肝纖維化及肝再生實驗室
ysshan@mail.ncku.edu.tw

Research Interests
Inflammation and metastasis of gastric cancer, CD44 and cancer stem cells in GIST
The biomarkers in pancreatic cancer
Liver regeneration and liver fibrosis
Clinical trials: oncology, nutrition, and surgical infection

Laboratory Introduction
In our lab, we focus in three cancers, gastric cancer, pancreatic cancer, and gastrointestinal stromal tumor (GIST), liver regeneration and fibrosis, and perform several clinical trials.
In gastric cancer, we are interested in understanding how gastric cancer cell to educate macrophages to help cancer cells proliferation and migration. We established a co-cultured system to investigate the interaction between cancer cells and tumor associated macrophages (TAM), including the signal pathways involved in the proliferation, metastasis of cancer cells. These studies will help us to explore the role of TAM in the inflammation and cancer metastasis and their potential roles on the therapeutic strategies against human cancer. We also investigated the down-regulation of gelsolin on the gastric cancer metastasis. The down-regulation of gelsolin was related with promoter methylation. The methylation was related with methyltransferase, DNMT-1, and inflammation. The further mechanism will be explored in future. We also try to combine nano-biological technique to perform translation study in the treatment of gastric cancer. In GIST, we are focused on the CD44 cleavage and its intracellular sequential events. After OPN interacted with CD44, intracellular part of CD44 could act on β-catenin and further induce proliferation of GIST cells via cyclin D1, anti-apoptosis of GIST cells via Mcl-1, and the increased expression of stem cell marker, CD133. The further mechanism was under investigation. In Pancreatic cancer, we are focus on mechanism and usage of biological markers for early prediction of pancreatic cancer recurrence and metastasis, such as free DNA, plasma OPN, VEGF, gelsolin, MIF, KLF-10.
In liver fibrosis, we have established rat hepatosteatosis model. We found GI bypass surgery can prevent hepatosteatosis via increase insulin sensitivity. The role of methylation and microRNA during hepatosteatosis was also under investigation.
In the Shan laboratory, we have close cooperation with our colleagues and make use of research techniques drawn from immunology, pharmacology, molecular biology, and biochemistry. Welcome to join us if you have any interests!

Representative Publications