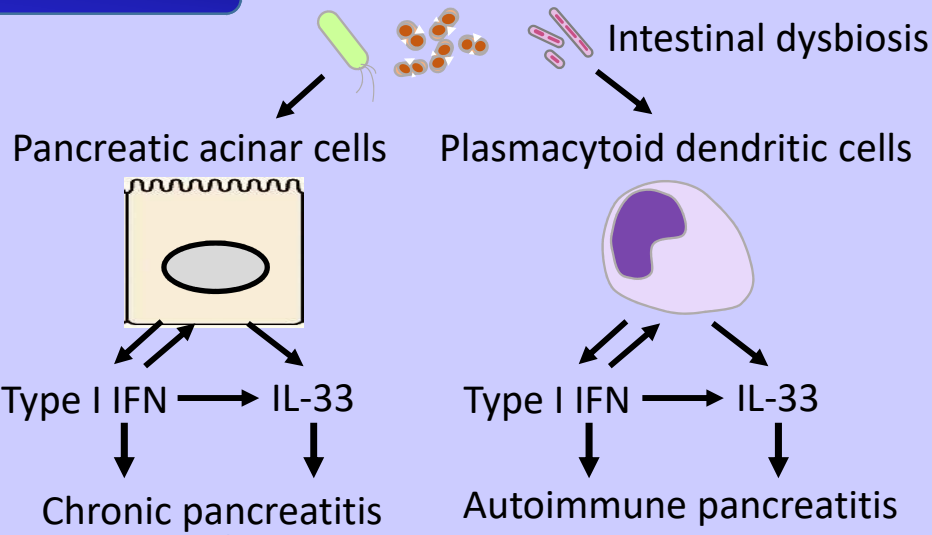
Study on Immune Responses against Intestinal Microbiota Associated with Chronic Pancreatic Diseases

(Associate Professor Tomohiro WATANABE, tomohiro@med.kindai.ac.jp)

Research Area

1. Identification of microbiota associated with the development of chronic pancreatic diseases.
2. Elucidation of pathogenic immune responses caused by microbiota in chronic pancreatic diseases.
3. Development of novel treatments using immune responses against microbiota for chronic pancreatic diseases.



Recent Activities

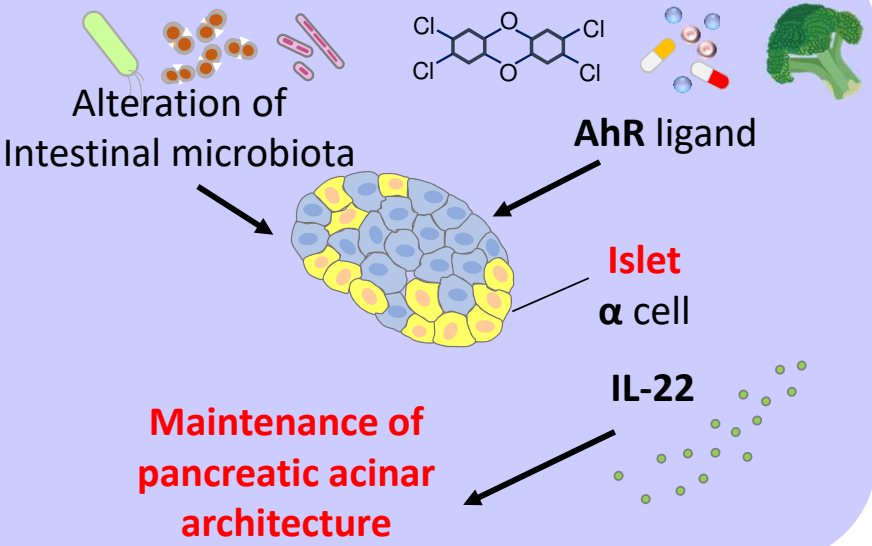
- Immunopathogenesis of pancreatitis. Watanabe T et al., Mucosal Immunology, 10(2):283-298, 2017.
- Mechanistic insights into autoimmune pancreatitis and IgG4-related disease. Watanabe T et al., Trends in Immunology, 39(11): 874-889, 2018.

Development of a Novel Treatment in Pancreatic Diseases Using Tissue Repair and Regeneration Properties of IL-22

(Assistant Professor Ken KAMATA, ken.kamata@med.kindai.ac.jp)

Research Area

1. Identification of environmental, dietary, and microbial factors leading to IL-22 production in the pancreas.
2. Elucidation of molecular mechanisms how IL-22 maintains pancreatic acinar homeostasis.
3. Development of novel treatments using tissue repair and regeneration properties of IL-22 for pancreatic diseases.



Recent Activities

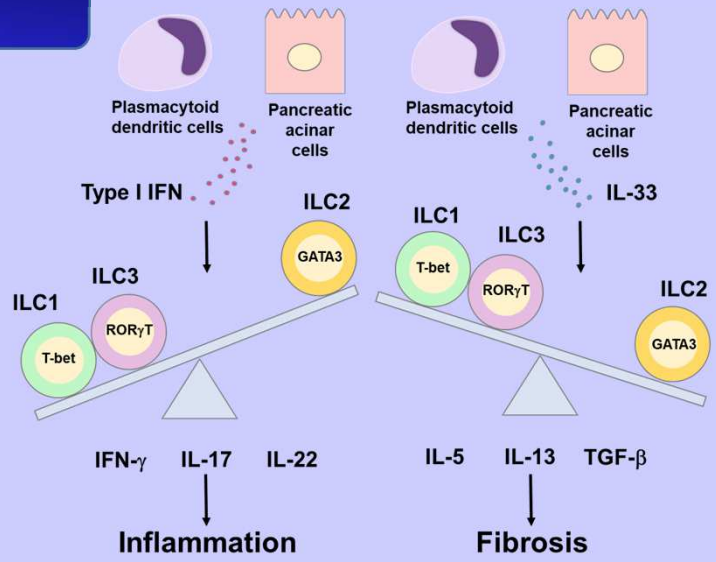
- Gut microbiome alterations in type 1 autoimmune pancreatitis after induction of remission by prednisolone. Kamata K et al., Clin Exp Immunol, 202(3): 308-320, 2020.
- Intestinal dysbiosis mediates experimental autoimmune pancreatitis via activation of plasmacytoid dendritic cells. Kamata K et al., Int Immunol, 31(12): 795-809, 2019.

Elucidation of Pathogenesis of Pancreatitis Diseases from Innate lymphoid Cell Populations

(Assistant Professor Kosuke MINAGA, kousukeminaga@med.kindai.ac.jp)

Research Area

1. Elucidation of alterations in innate lymphoid cell populations in pancreatic diseases.
2. Elucidation of pathogenic immune responses leading to the development of pancreatic diseases caused by alterations in innate lymphoid cell populations.
3. Development of personalized medicine based on the immune microenvironment induced by alterations in innate lymphoid cell populations.



Recent Activities

- Identification of serum IFN-α and IL-33 as novel biomarkers for type 1 autoimmune pancreatitis and IgG4-related disease. Minaga K et al., Scientific Reports, 10: 14879, 2020.
- Plasmacytoid dendritic cells as a new therapeutic target for autoimmune pancreatitis and IgG4-related disease. Minaga K et al., Frontiers in Immunology, 12: 713779, 2021.