This lab focuses on the discovery of pharmacologically active natural products using bioactivity-guided separation from domestic and foreign plant materials.

Two main targets are proprotein convertase subtilisin/kexin type 9 (PCSK9) and inflammasomes. Using PCSK9 target, we are interested in discovering PCSK9 synthesis inhibitors or PCSK9-LDLR binding inhibitors which may give potential therapeutic effects in lowering cholesterol levels in blood. By using a screening method based on inflammasome-mediated inflammation, we aim to find out naturally occurring molecules which may relieve or treat the symptoms of inflammatory bowel diseases.

Discovery of Natural Products with PCSK9 inhibition

- SK13301, a purified herbal extract from *Sophora tonkinensis*, inhibited airway inflammation and bronchospasm in allergic asthmatic animal models in vivo. *J Ethnopharmacol*, 2017, 206, 298-305.