MicroRNAs are a class of small molecules which control beta-cell and/or immune cell function and are secreted by cells. They can be measured in serum or plasma thus representing optimal biomarkers of potential alterations of beta-cells and/or immune cells during type 1 diabetes. Standardization of laboratory procedures for the measurement of circulating microRNAs are essential to reproducibly detect new microRNA biomarkers to diagnose and follow-up Type 1 diabetic patients. Innodia basic research team has discovered that a specific MicroRNA, the miR-409-3p was a key piece of the puzzle. This MicroRNA is reduced in plasma of a mouse model of Type 1 diabetes, is also reduced in immune cells attacking beta-cells in pancreas of diabetic mice and regulates inflammation in pancreas of autoimmune diabetic mice.

Innodia proposes an innovative approach to realize a decisive step towards type 1 diabetes prevention and cure. Innodia develops European infrastructures, establish a tight collaborative network of basic and clinical researchers, advances the development and application of novel methodologies, establishes a unique integrated database and conceives innovative clinical trial designs.