Leave a Nest (President and CEO: Jo Inoue, hereinafter "LNST") and Universal Bio Sampling, Co., Ltd. (President: Fumiaki Hirata, hereinafter "UBS") have started joint research on the development of a new method to transport samples at room temperature while retaining the composition of microorganisms and metabolites in the stool specimen. The research will be initiated.

The number of publications on the relationship between human health and intestinal bacteria has exploded over the past decade, and we have gained a great deal of knowledge on the relationship between human health and disease. To clarify changes in intestinal microbiota and metabolites due to differences in food culture, such as Western diet and Halal diet, it is necessary to have a system that is accessible to all and that can transport samples in a stable manner. Stable transportation methods include cryopreservation and preservation with the addition of chemicals, but the freezing process and transportation are complicated and costly, and the chemicals can interfere with the measurement of important substances, including metabolites. Therefore, to collect samples on a large scale, a stable, chemical-free method of transport at room temperature is needed.

UBS has been working to make testing more accessible by solving the problem of high operating costs associated with refrigerated and frozen storage and transport of saliva and blood samples for testing by providing a means of storage and transport at room temperature. Currently, we have developed the UBiSS Card (*1), a unique sample collection cartridge that combines a mechanism for storing saliva and blood at room temperature, drying, transporting, processing samples prior to analysis, and managing information, with the aim of establishing an integrated specimen testing platform for collecting biological information daily.

In this joint research, by combining the platform technology of the UBiSS Card with the technology and knowledge of LSNT manufacturing, academia, and venture businesses, we will develop a kit that does not change the composition of microbes and metabolites in fecal matter during storage and transportation at room temperature. By doing so, we aim not only to advance research on the relationship between diversity in people's lives, such as food culture and lifestyle, and the intestinal environment on a global scale, but also to activate related health care services.

(*1) UBiSS card
A card-type cartridge (see photo) that solidifies a trace amount of liquid specimen after collection and can be transported to a testing laboratory at room temperature. A QR code printed on the card allows specimens to be managed using a unique code system.