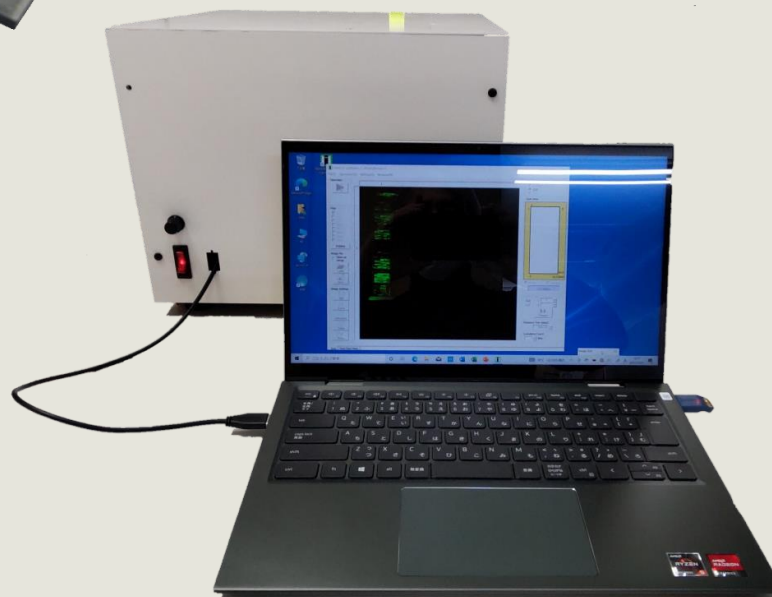
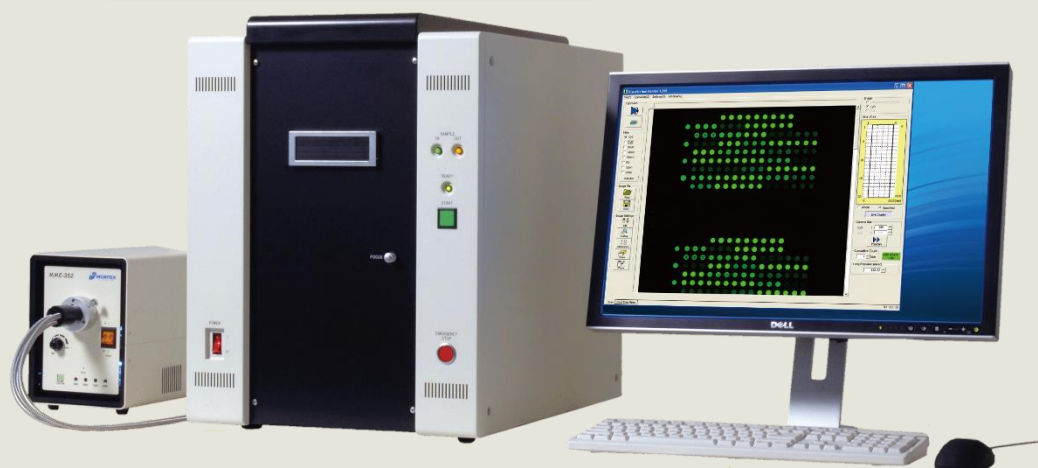


Pioneer in Glycan Profiling Technology using Lectin Microarrays

GlycoStation®

Super low price

Super high-performance



GlycoStation® Reader 2300: Super High-end

The current high-end glycan profiler is **GlycoStation® Reader 2300 (GSR2300)**. Comparing with the first generation Glycan profiler, GSR1200, the prominent feature of GSR2300 is that two contradictory functions (i.e., high sensitivity and fast scanning) are satisfied simultaneously. By renewing the optical system and adopting a digital binning function, it is able to scan whole microarray surface in only 15 seconds with higher sensitivity than GSR1200. Taking into consideration that the common microarray scanners need around 10 minutes for the scanning, GSR2300 would be a world fastest scanner with high sensitivity. Utilizing its low noise detection capability, it is possible to get glycan profiles only from a few cells. The linearity in the lower signal range is greatly improved, and thereby the dynamic range in the lower signal side is expanded.

There are two type of **lectin microarrays, Ver1.0 and Ver2.0**. 45 kinds of lectins are immobilized on each version, and Ver2.0 is using recombinant lectins mainly.

Please refer to our HP to get detailed information.

GlycoSuperLite™2200: Low-end model

This device uses a reduction optical system by 5.5 times with high NA, and can instantly capture fluorescent images of lectin microarrays without scanning. Thereby, ultra-high-speed scanning of 10seconds or less is attained. It is no mistake to say that it is the world's fastest evanescent wave fluorescence-excited glycan profiler. Please refer to our HP to get detailed information about **GlycoStation® Reader 2300** and **GlycoSuperLite™ 2200**.

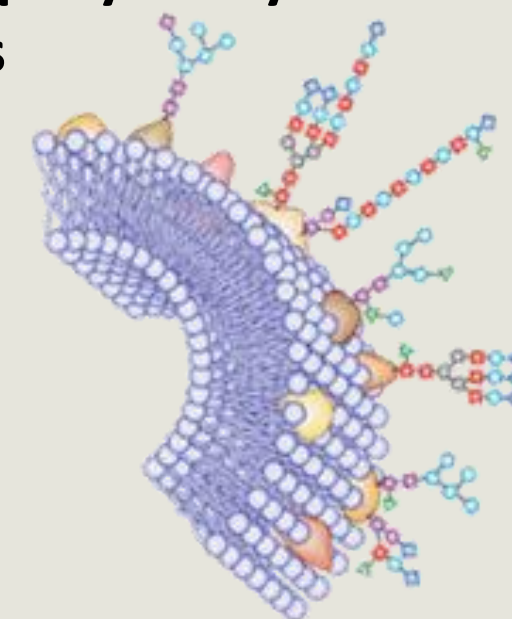
Examples of GlycoStation® utilizations

- Biomarker discovery and its diagnostic applications
- Characterization of pluripotent cells (ES, iPS, hMSC)
- Monitoring of therapeutic proteins such as antibody drugs and EPOs
- Understanding relationship between glycan profiling of infectious viruses and infectivity, and also intestinal bacteria and immunity

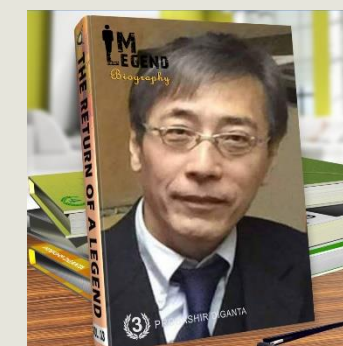


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for the coming new age

Pioneering Company in Glycan and Lectin fields



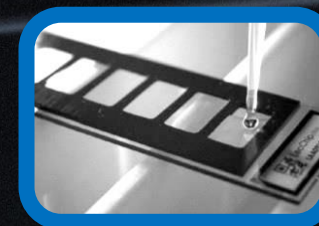
Pursuing 「New Green Evolution」
to realize Regenerative and Sustainable World



<https://www.emukk.com/WP/en/info@emukk.com>

Comparative glycan profiling analysis is possible with ng of the target glycoprotein without cleaving glycans from the carrier protein.

GlycoStation® : Glycan Profiling System



By expanding this technology, we are now developing a novel **Optic Biome sensor (OBS)** as an inexpensive, fast, and easy-to-use sensor.

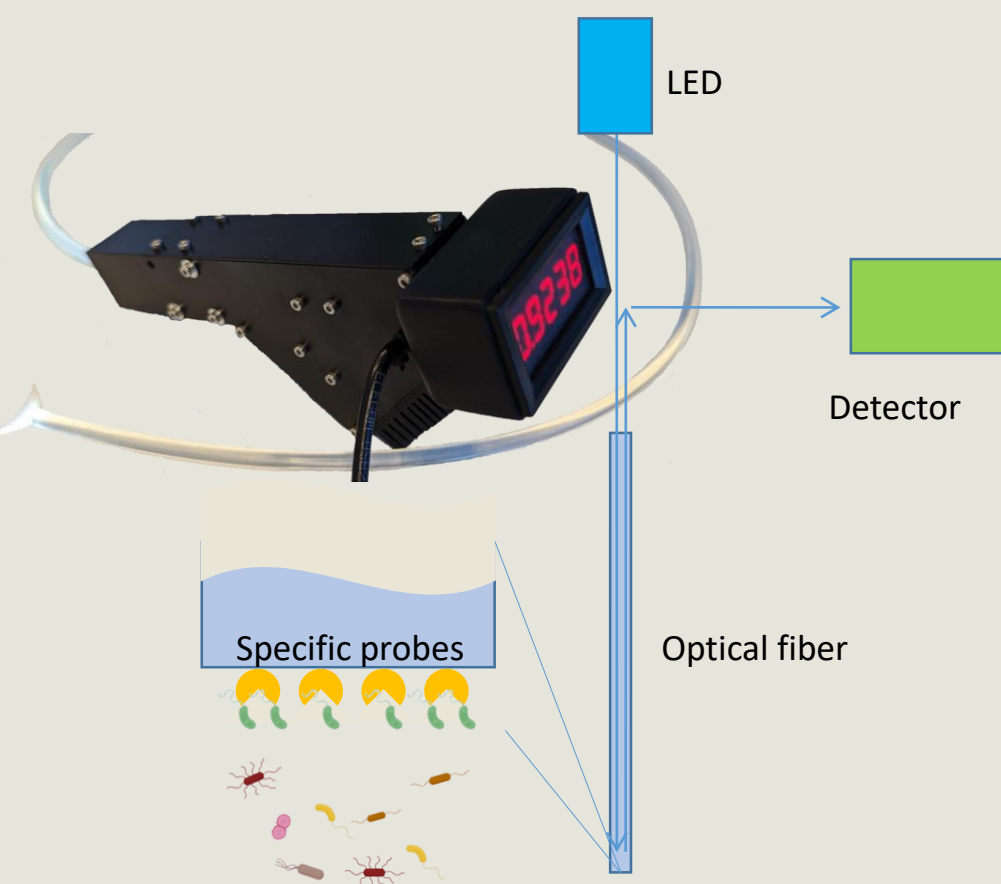


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Optic Biome Sensor (OBS): New Products

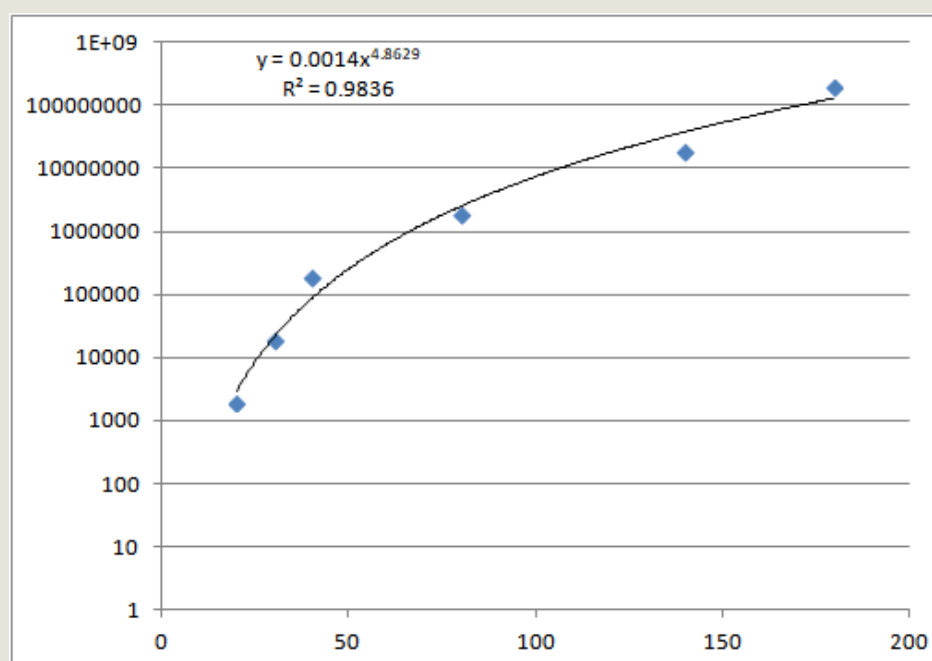
If the technology is not easy for anyone to use, it will not succeed as a business. It has to be cheap technology that anyone can use, and it has to give results immediately.

Focusing on this point, we have developed a “**ultra cheap, fast, and easy to use**” **optic biome sensor (OBS)**, of which physical size is the size of a smartphone.



Measured example: Bacillus spp.

Below is an example of measuring Bacillus, which is a typical beneficial bacteria in the rhizosphere, using the OBS prototype sensor. The numbers on the horizontal axis indicate the signal intensity (mV) of the return light obtained by converting the current of the photodetector into voltage with a trans-impedance amplifier. When the sensor end face of the optical fiber is immersed in the bacillus solution, the signal begins to rise linearly and reaches the saturation point in a short time. As shown in the figure below, OBS is able to measure the concentration of the target bacteria in the wide range from 1,000/mL to 200 million/mL in a short time. By changing the probe immobilized on the end face of the optical fiber sensor, it is possible to capture different bacterial species, and the second prototype of OBS is designed so that the optical fiber sensor can be easily replaced.



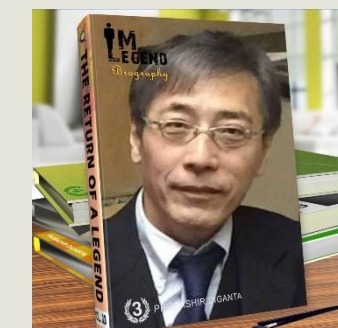
Horizontal axis=change in signal in mV units, Vertical axis = bacterial concentration

emukk LLC (合同会社エムック)

Established on Jan. 6th, 2023 as an LLC, Started on Nov. 27th, 2020 as a small business.

One of the first companies in the world commercialized lectin microarrays was Moritex's Glycomics Laboratory, which launched the glycan profiling system “**GlycoStation**” in 2007. This technology has undergone transitions from Moritex, through GP Bioscience, to Glycotechnica, and finally has been inherited by Mx (emukk). At Mx (emukk), while applying the technology we have cultivated, we are now developing a new product, optic biome sensor (**OBS**), which can detect bacteria easily and in a short time to help realization of a sustainable world, especially focusing on area of food safety.

CEO Masao Yamada, Ph.D.



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money

Head Quarters
2-21-19, Matsunoki, Kuwana, Mie 511-0902, JAPAN
TEL: +81-80-2616-8688

Yokohama Office
5-34-2-110, Utsukushigaoka, Aoba-ku, Yokohama,
Kanagawa 225-0002, JAPAN
TEL: +81-80-2618-8688

info@emukk.com
<https://www.emukk.com/WP/en/>