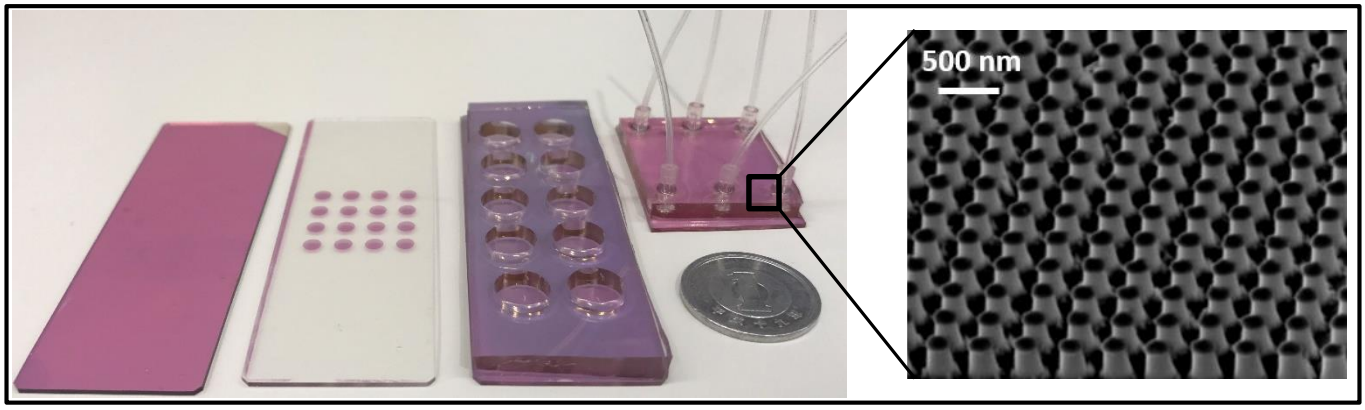
OIST OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY GRADUATE UNIVERSITY
沖縄科学技術大学院大学

High-Throughput Nanoplasmonic Bioassay Chips



Applications

- Label-free detection involving cells, bacteria, microorganisms, viruses, proteins, DNA and small molecule analysis
- Point-Of-Care (POC) diagnosis
- High-throughput screening
- Fundamental plasmonic and micro/nanofluidics research

Problem & Solution

There is a significant need for highly sensitive multiplexed bio/chemical sensing platforms for a wide variety of clinical and pharmaceutical assays. To meet this need, we provide a powerful sensing platform to detect real-time bio-molecular interactions through precise monitoring of light interacting with the nanoplasmonic surfaces namely Localized Surface Plasmon Resonance (LSPR).

Benefits

LSPR-based sensors are known to exhibit superior performance in terms of speed, simplicity, and sensitivity. This technology enables to produce nanostructures of gold with high density in an area of order 'cm^2', providing further advancements in LSPR in terms of sensitivity, multiplexity, cost, and biocompatibility. If antibodies or aptamers are immobilized on the nanostructures, it is possible to detect specific biomolecules or cells of interest. Moreover, as detection is performed with a simple optical system without any labeling, it is suitable for instantaneous analysis at the sample acquisition site.

Patent Pending

Keywords

LSPR, Nanophotonics, multiplexed sensing platforms, immunoassays, biofilms, long-term cell assays, drug-discovery, antibiotic resistance

For more information

Business Development/Technology Licensing Section
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