AGILE R100™

Sample to Data in Minutes at Your Bench.

Nanomedical DIAGNOSTICS
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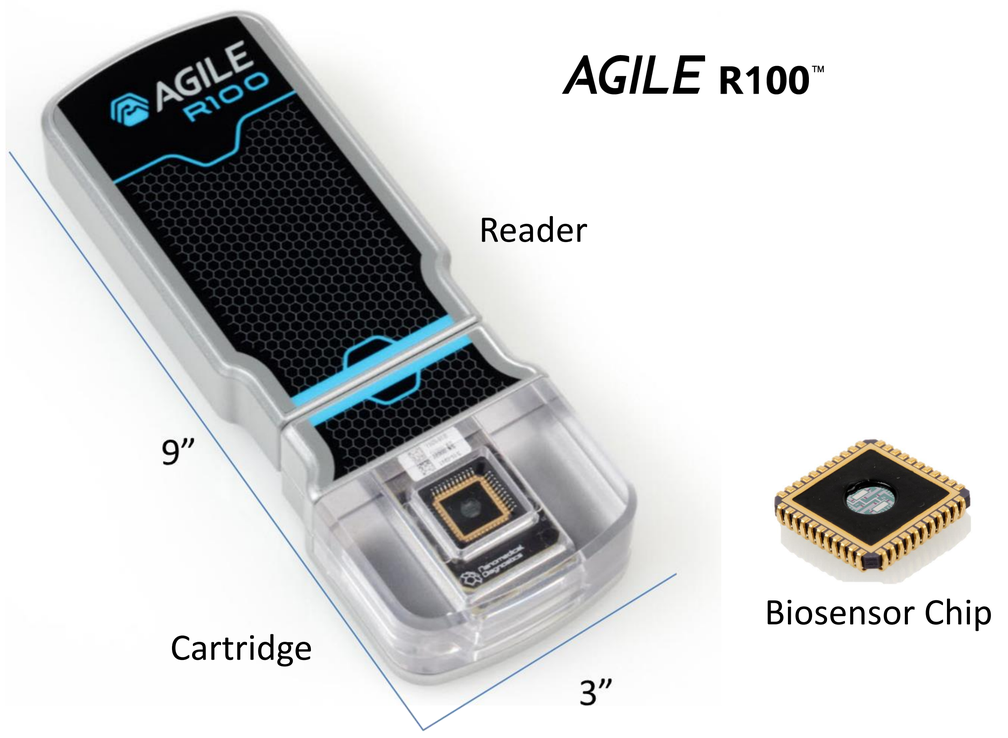
AGILE R100 is an electronic label-free assay that provides sensitive real-time binding kinetics and concentration data for optimizing lead compounds during drug discovery. Unlike optical systems, the inert graphene-based technology can detect small molecules with no lower size limit, in up to 10% DMSO in as little as 10 µL, all in a benchtop device, putting you in charge of analyzing challenging samples in your own lab on your own time. Accelerate your research today.

Features

- Small molecule and fragment analysis – no lower size limit
- 11 logs of dynamic range starting at 100 fM
- 10 µL of sample and 0.5 ng of capture molecule
- Measurements directly from cell or tissue lysate, or in up to 10% DMSO



Applications

- Small molecule or protein lead discovery
- Antibody characterization and optimization
- Labile biomolecular interactions research (ex: kinase)
- Liquid biopsy research, developmental biology, and other sample-limited fields
- Biomolecular analysis of nucleic acids, peptides, macromolecular complexes

Key Benefits

1) Measure binding kinetics in samples never before possible

- Make your material go further using as little as 10 µL of sample and 0.5 ng of capture molecule .
- Measure in complex media, tissue lysate, blood fractions, or DMSO, and save time by eliminating purification.

2) Get more accurate data

- Sensitive concentration and kinetic binding measurements with an unprecedented 11 logs of linear dynamic range starting at 100 fM.

3) Simplify kinetic binding studies by measuring samples at your bench in less than a day

- Proprietary Field Effect Biosensing (FEB) technology enables miniaturization and reduced footprint for personal benchtop ownership – increasing your control and speed to data.

Specifications

Dynamic Range of Detection	100 fM – 10 mM
Sample Volume	10 - 50 µL
Functionalization amount	0.5 - 500 ng of material
Temperature Range	-20C - 100C
Lower Sense Time	2 minutes
Upper Sense Time	8+ hours
Size of Capture Molecules	1 Da – 200 kDa
Size of Target Analyte	1 Da – 200 kDa
Sample Types	Small molecules in ≤10% DMSO, cell & tissue lysate, blood fractions
Target Chemistry	EDC/sNHS or His-tag linkage
Speed of Data Collection	Up to 420 points/min
Shelf Stable	3 - 6 months, stored with desiccant
Number of Measurements	Up to 10 per AGILE biosensor chip
Computer Specifications	PC with USB port, Windows 7 or later
Weight	2 pounds

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How It Works – Field Effect Biosensing Technology

AGILE R100 is built on proprietary Field Effect Biosensing (FEB) technology, an all-electronic method for measuring biomolecular interactions. This label-free technique measures the current across a field effect biosensor surface to which capture molecules are immobilized (Image 1). Any interaction or binding that occurs on the surface causes a change in conductance that is monitored in real-time (Image 2).

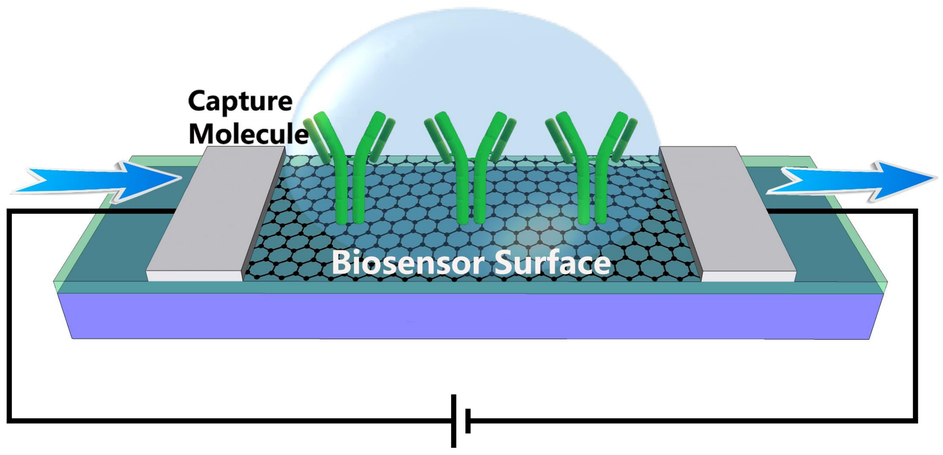


Image 1

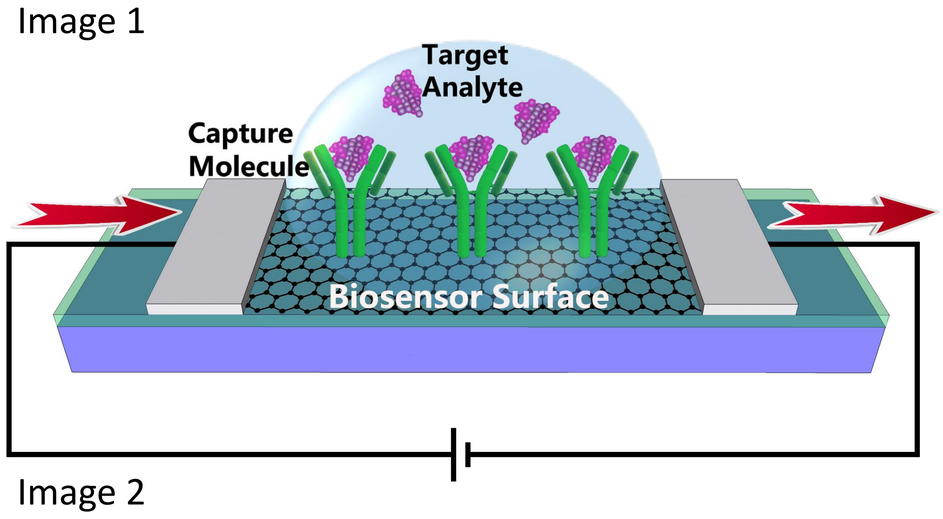


Image 2

The binding between a capture molecule immobilized on the biosensor surface and a target analyte in solution causes current and/or capacitance to increase or decrease, which is directly output in a sensorgram (Image 3). This real-time measurement enables accurate monitoring of binding affinity, kinetics (including association and dissociation binding rates), and concentration.

Only molecules binding to or dissociating from the biosensor surface cause a change in conductance on the AGILE platform. Unbound molecules, crude media that might interfere with optics, or changes in flow rate do not affect the conductance reading. These distinctive features enable detection in complex samples such as cell and tissue lysate, blood fractions, or in up to 10% DMSO, making FEB an efficient technology for small molecule or biotherapeutic lead discovery, and antibody characterization and optimization.

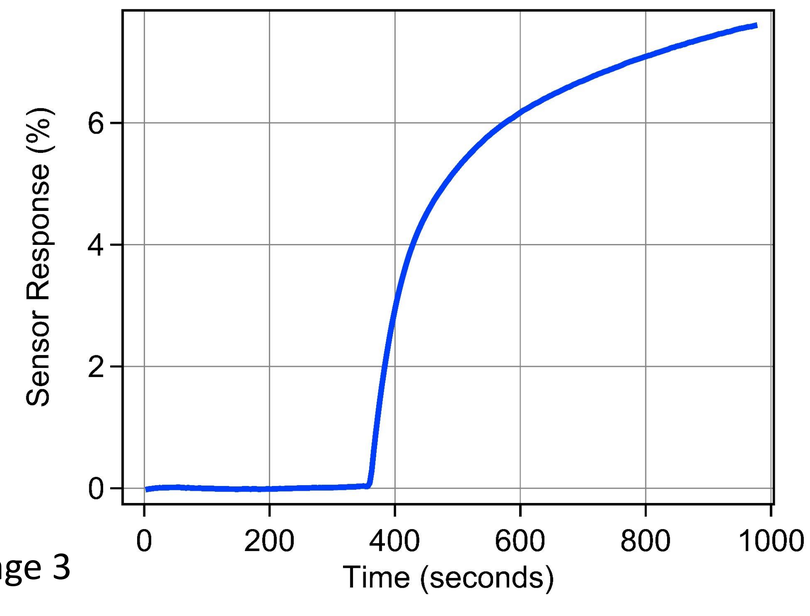
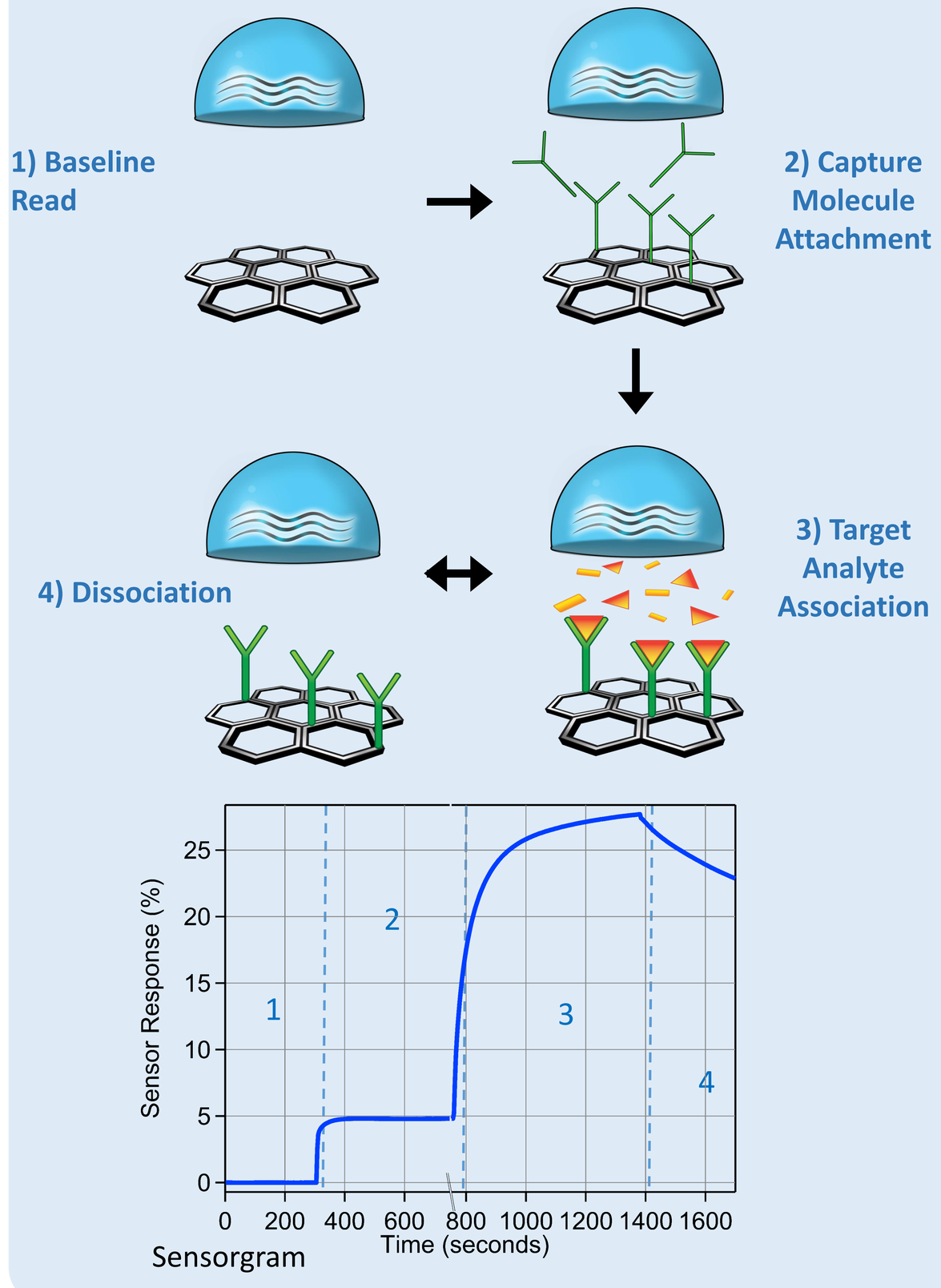


Image 3

Workflow



Sensorgram

Publications Referencing AGILE:

1) Franco, A. et al. [2016] *Nature*. doi:0.1038/nature20156.
2) Qvit, N. et al. [2016] *Angew. Chem.* doi:10.1002/anie.201605429R3.
3) Lerner, M.B. et al. [2016] *Sensor Actuat B-Chem*. doi:10.1016/j.snb.2016.09.137.

For additional references and information, visit www.nanomedicaldiagnostics.com.

AGILE R100 includes:

- AGILE Reader and Cartridge
- Five AGILE Biosensor Chips
- Data Acquisition and Data Analysis software

Request a Quote:

Email: sales@nanomedicaldiagnostics.com

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