

Measure binding affinity and kinetics in real time

Know what binds, how fast, and how strongly. Label-free, on your own bench.

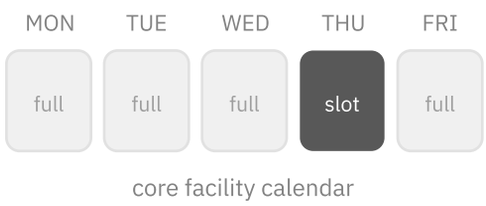
inQuiQ® label-free biosensing · deltalifescience.com

THE CHALLENGE

Binding questions deserve fast, complete answers

Does this molecule bind? How tightly, and how fast? These are simple questions, yet getting clear answers can be harder than it should be.



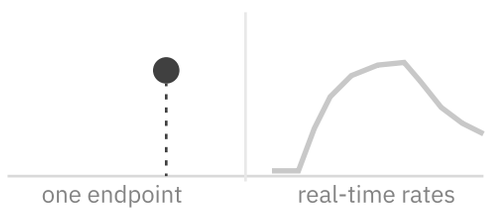


core facility calendar

01

Shared instruments slow you down

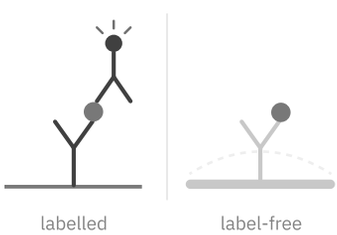
Conventional SPR often sits in a core facility. You book time, wait for a slot and run samples elsewhere.



02

Endpoint assays miss the rates

An ELISA shows whether something binds. It does not show how fast a complex forms or how long it holds.



03

Labels add work and risk

Tags and labels take extra steps and can change how a molecule behaves.



04

Precious samples run out

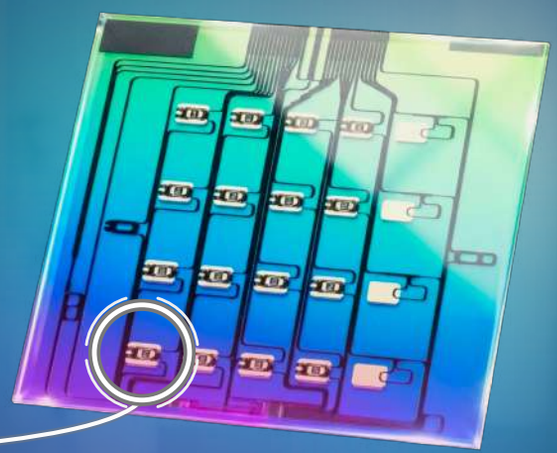
Early research material is scarce. Every microlitre spent on an assay is one you cannot use elsewhere.

Does it bind? How tightly? **How fast?**

THE SOLUTION

Light-based biosensing on a photonic chip

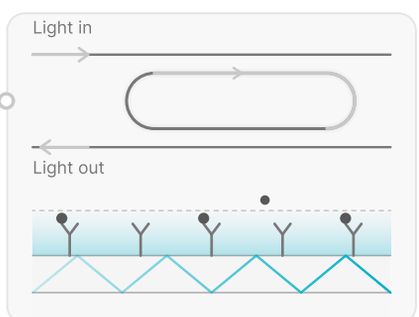
Delta's Nanophotonic Evanescent field Sensing (NES) measures binding directly at the sensor surface. No labels, no tags, and the interaction shows up as it happens.



FOUNDATIONS

Founded in 2018 as a TNO spin-off, Delta builds on biosensor research in TNO's optics department to enable high-sensitivity label-free biosensing for researchers worldwide.

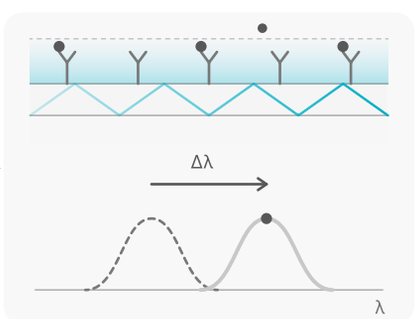
From waveguide to real-time kinetics



Top view · side view

01 Light enters the waveguide

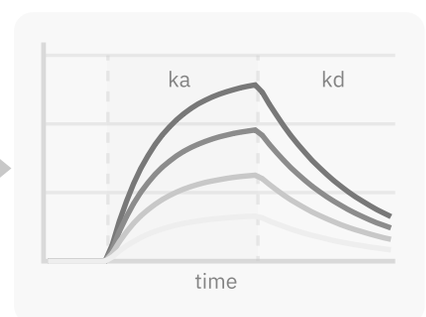
Which creates an evanescent field ~100nm above the sensor surface.



Before binding → after binding

02 Binding shifts waveguide

And Δλ is continuously measured as binding happens.

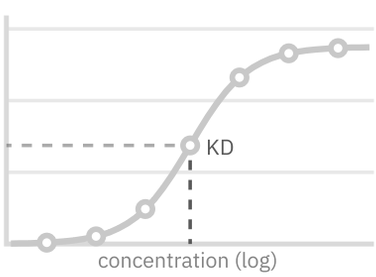


Association → dissociation

03 Signal to sensorgram

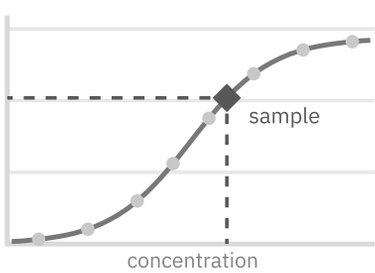
The wavelenght shift is measured over time, showing real-time binding kinetics.

FROM THE KINETIC READOUT TO MORE BINDING ANSWERS



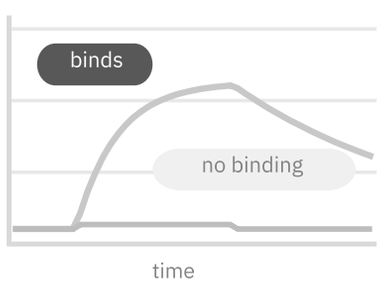
Affinity

Steady state KD



Quantification

Total and active concentration



Specificity

Yes or no, epitope binning

Meet the inQuiQ

A benchtop platform that measures affinity, kinetics, specificity and concentration in real time, for many interactions per run.

<250 Da	4 channels	30 µL	768
TO WHOLE PARTICLES	16 SENSORS PER RUN	MIN. SAMPLE VOLUME	SAMPLE UPGRADE PATH



01 **Follow a project from hit to lead**

KD 10 pM to 10 mM

02 **Give slow binders the time they need**

Injections 30 µL to 2 mL

03 **Read the smallest binding signals**

Noise < 0.1 RU RMS

04 **Regenerable sensor chips**

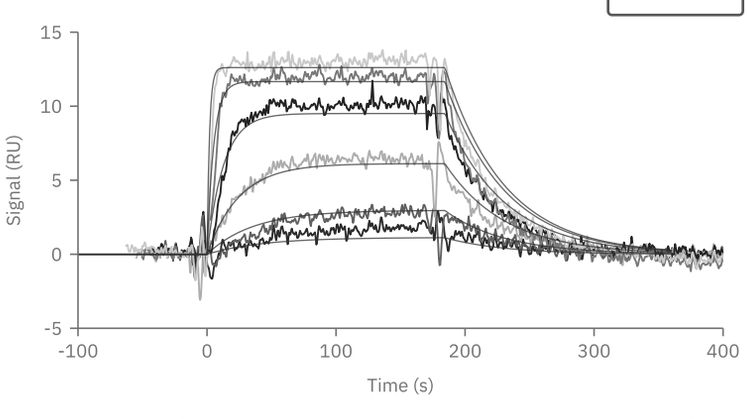
Various surfaces

Six sensor surfaces, all regenerable

Carboxyl, EDC/NHS | Streptavidin / NeutrAvidin | Strep-Tactin | Protein A/G | Lipid layers | Azide, click chemistry

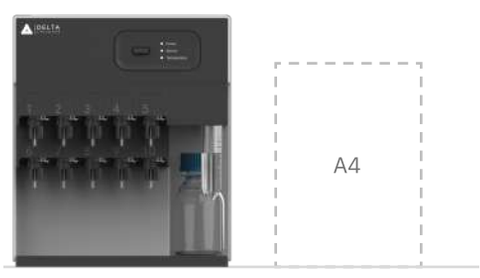
Built to see the smallest binders

222.3 Da



Small molecule binding to carbonic anhydrase II, label-free.

Compact footprint, complete binding analysis



Front view drawn to scale, 18 kg.

APPLICATIONS

Built for academic labs and biotech teams

One label-free platform for binding questions across molecule types.



- Engineered antibodies
- Small molecules & peptides
- Molecular glues & PROTACs
- Structural biology
- Complex biological matrices
- Bioprocessing
- Membrane proteins
- Aggregated proteins
- Nucleic acids
- EVs and LNPs

ACADEMIC LABS

Publication-quality data on your own bench

Reliable affinity and kinetics for papers and grants, without booking a core facility.

"The data quality is excellent and highly encouraging."
Prof. Dr. Norbert Sewald, Bielefeld University

BIOTECH R&D

Screen more candidates, earlier

Characterize molecules throughout development on a modular platform that scales as your pipeline grows.

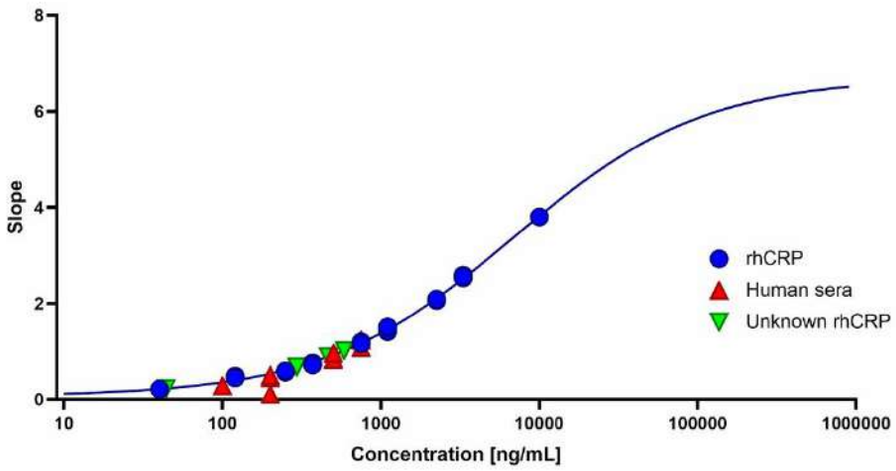
37.7 nM PD-1/PD-L1 KD

PERFORMANCE

Performance in practice

Works in human serum

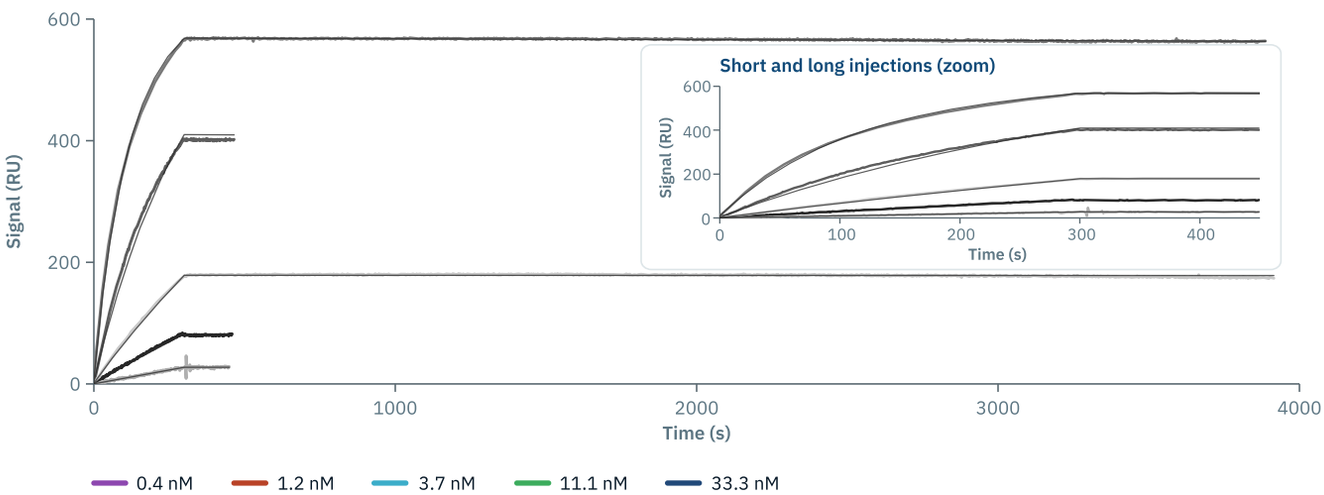
2.5% serum



Dose response curve for CRP quantification, showing spiked CRP in buffer (blue), spiked CRP in 2.5% human serum (red), and unknown artificial samples in 2.5% serum (green).

Stable for slow off-rates

1 h dissociation



Short and long injections of an antibody over a ±3000 Da peptide.

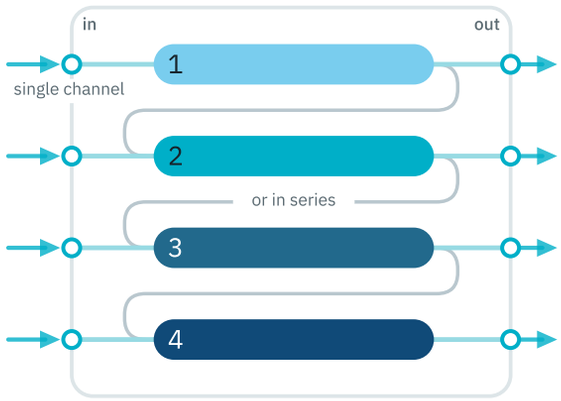
Channels	**4, with 4 sensors each**
Targets	**Up to 16 with a spotter**
Sample capacity	**10 × 2 mL**
Minimum sample volume	**30 µL**
KD range	**10 pM to 10 mM**
ka	**10 to 10⁷ M⁻¹s⁻¹**

kd	**10⁻⁵ to 0.1 s⁻¹**
Short term noise	**< 0.1 RU RMS**
Baseline drift	**< 0.3 RU/min**
Temperature control	**16 to 40 °C**
Dimensions	**30 × 36 × 40 cm**
Weight	**18 kg**

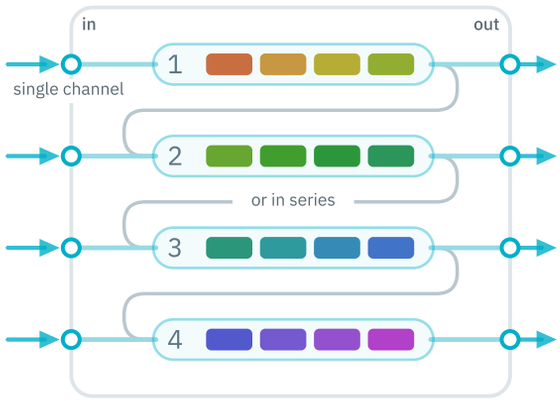
WORKFLOW

Your assay, your setup

One injection, four channels, sixteen sensors. Each channel can be addressed individually for immobilisation or injection. The sample flows through the selected channels in series, and one sample can meet up to 16 targets with spotter immobilization.



In-flow immobilization: one ligand per channel



Spotter immobilization: 16 individual sensors

30 µL minimum | Sequential flow paths | Up to 16 targets

01
Load
Up to 10 samples, from 30 µL. One 0.22 µm filter step with crude samples.

02
Configure
Choose channels, surface and conditions.

03
Walk away
The run continues unattended.

04
Analyse
Sensorgrams, K_D, k_a and k_d.



Modular growth path

Add an autosampler and the inQuiQ becomes the inQuiQ 768: up to 768 samples per run, in 96- or 384-well plates.



DELTA
LIFE SCIENCE



Tell us about your binding questions

Some teams want to see the instrument run. Others need the numbers first, or a conversation about whether the assay will work at all.

REQUEST A DEMO

See inQuiQ run on your own interaction

Book a live demo with an application scientist. Bring a binding question, and ideally one of your own interactions.

Book a demo

Scan to book



Talk to an application scientist

Thirty minutes on your assay design.

Read the application notes

Real binding data, from small molecules to PD-1/PD-L1.

deltalifescience.com
request@deltalifescience.nl

RIFERIMENTO PER L'ITALIA

Qi technologies

Qi srl
t +39 06 9105461
www.qitech.it | SalesQi@qitech.it

linkedin.com/company/deltalifescience