LigandTracer®
GREEN

ridgeview
instruments ab

Understand how your ligand interacts with living cells.

LigandTracer Green is made for cell-biologists. Introducing time into the binding assay results in more detailed and robust characterization of interactions.

Key features:

- Monitor the dynamics of protein-cell interactions in real-time, both during incubation and after wash.

- Derive the affinity, on/off-rate and specificity

- Interchangeable detectors for different sets of fluorophores

- Interactive self-learning package included

- Affordable, easy to use and saves labor time

- Maintenance free and low running costs

Technology

Cells are seeded in a local part of a cell dish with the opposite side used as a reference to correct for background signal. The dish is placed on an inclined, slowly rotating support and liquid containing a fluorescently labeled ligand (e.g. a protein or a small synthetic molecule) is added. Continuously following the ligand signal on the cells provides an accurate estimation of the interaction kinetics, without washing steps or the need to count cells.


Detector

Cells expressing target receptors

Solution with labeled ligand
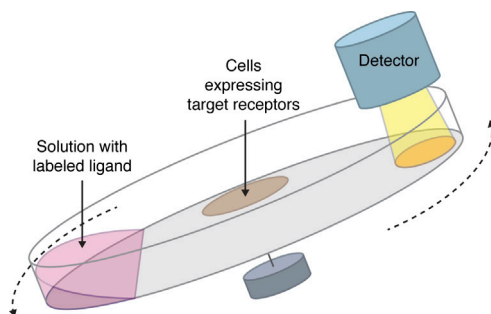
Application Example

Characterize therapeutic antibodies

LigandTracer was used to study the affinity and kinetics of the therapeutic antibodies cetuximab (Erbitux), trastuzumab (Herceptin) and pertuzumab (Perjeta) binding to epidermal growth factor receptors expressed on tumor cells. The interactions were monitored for many hours, suitable for the characterization of the slow on (k_a) and off (k_d) rates of these high affinity antibodies. In fact, time to equilibrium when incubating 1 nM of these antibodies range from 10 h to 39 h. Information about interaction kinetics or dynamics can be useful for understanding drug residence time and appropriate dose.
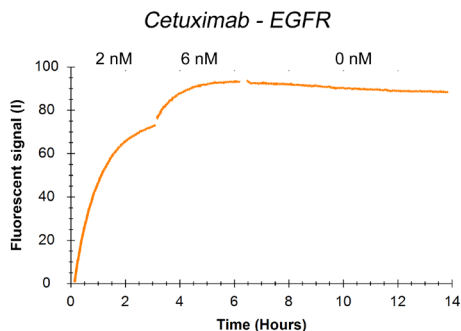
Cetuximab - EGFR

Interaction	k_a (M^{-1}s^{-1})	k_d (s^{-1})	K_D (M)
Cetuximab – EGFR	9.5×10^4	1.9×10^{-6}	2.0×10^{-11}
Trastuzumab – HER2	1.8×10^4	7.1×10^{-6}	4.0×10^{-10}
Pertuzumab – HER2	7.1×10^4	3.1×10^{-6}	4.3×10^{-11}

Examples of publications with LigandTracer Green

Combinatorial approach to increase efficacy of Cetuximab, Panitumumab and Trastuzumab by dianthin conjugation and co-application of SO1861.

Gilabert-Oriol R, Weng A, Trautner A, Weise C, Schmid D, Bhargava C, Niesler N, Wookey PJ, Fuchs H, Thakur M.
Biochem Pharmacol. 2015. 97(3):247-255.

Conjugation effects on antibody-drug conjugates: Evaluation of interaction kinetics in real time on living cells.

Bondza S, Stenberg J, Nestor M, Andersson K, Björkelund H.
Mol Pharm. 2014. 11(11):4154-4163.

SPECIFICATIONS

Size	0.2x0.25x0.4 m (w×h×d)
Detector	Interchangeable LED-based fluorescence detector
Detector models	Blue (488 nm) - Green (535 nm) Yellow (590 nm) - Red (632 nm) Red (632 nm) - NIR (670 nm)
	Detectors for other fluorophores will be developed on a regular basis, see www.ligandtracer.com for the current list of available detectors.
Cell dish holder	Adapted for a dish diameter of 87 - 89 mm
Accessories	Delivered with a laptop computer

About us

Ridgeview Instruments AB is a biotechnology company that develops, markets and sells instruments in the LigandTracer series. To evaluate and understand your data we provide the software TraceDrawer, designed to extract relevant information out of your interaction data in an effective and flexible manner.

Ridgeview Instruments also has a strong track record in supporting companies in the development of software, hardware and assays. Our proven performance history in biotech business makes us a partner to rely on.