ridgeview
instruments ab

Follow PET/SPECT markers on cells with minimum workload

LigandTracer Yellow is designed to speed up the development of medical imaging agents by providing not only the affinity of tracers to cellular targets but also valuable information on the interaction mechanism. Equipped with a scintillator-based detector suitable for all nuclides used in PET/SPECT imaging, real-time binding assays is made possible, even for short-lived nuclides like [11]C.

Key features:

- Detect protein-cell interactions in real-time, using proteins or PET/SPECT tracers
- Derive the affinity, on/off-rate and specificity
- Interactive self-learning package included
- Affordable, easy to use and saves labor time
- Maintenance free and low running costs
- Measure in incubator, room temperature or cold room

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 gamma emitting 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 kinetics of the interaction, without washing steps or the need to count cells.
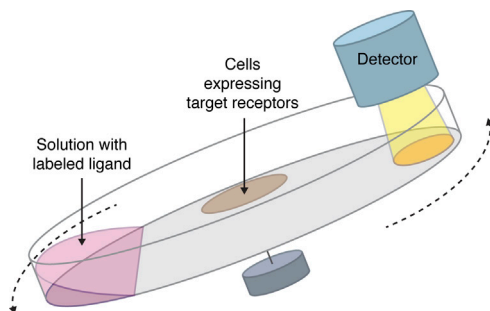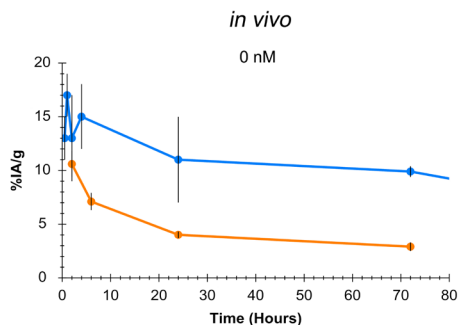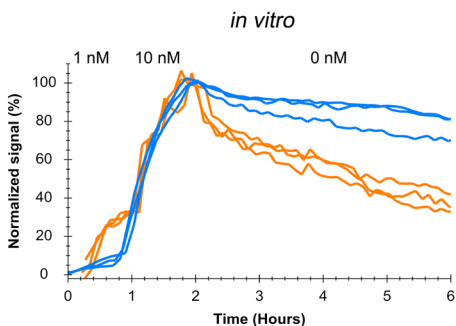

Application Example

Validate tumor models in medical imaging

Uptake and retention of ^{111}In-labeled anti-HER2 affibody ABY-025 was monitored on SKOV3 cells (expressing large amounts of HER2, blue) and DU-145 cells (expressing moderate amounts of HER2, orange) in a humidified incubator at 37 °C, with LigandTracer (upper graph). The data was compared with *in vivo* measurements of SKOV3 (blue) and DU-145 (orange) tumor xenografts in mice (lower graph).

The retention of tumor associated activity was three times longer for SKOV3 than for DU-145, both *in vitro* and *in vivo*. LigandTracer Yellow can therefore be a valuable tool for estimation of the *in vivo* outcome and optimization of animal experiments.

Examples of publications with LigandTracer Yellow

In vivo imaging of natural killer cell trafficking in tumors.
Galli F, Rapisarda AS, Stabile H, Malviya G, Manni I, Bonanno E, Piaggio G, Gismondi A, Santoni A, Signore A.
J Nucl Med. 2015. 56(10):1575-1580.

Selection of an optimal cysteine-containing peptide-based chelator for labeling of affibody molecules with ^{188}Re.
Altai M, Honarvar H, Wållberg H, Strand J, Varasteh Z, Rosestedt M, Orlova A, Dunås F, Sandström M, Löfblom J, Tolmachev V, Ståhl S.
Eur J Med Chem. 2014. 87:519-528.

SPECIFICATIONS

Size	0.2×0.2×0.4 m (w×h×d)
Detector	Solid state gamma-ray detector
Recommended label	^{111}In, ^{177}Lu, ^{18}F, ^{11}C and similar
Noise	< 8 counts per second (typical value)
Cell dish holder	Adapted for a dish diameter of 87 - 89 mm
Temperature control	+7 to +37 °C
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.