

revvity

A selection of HTRF assays for PPI in scientific literature

Addressing the interactome with protein-protein assays



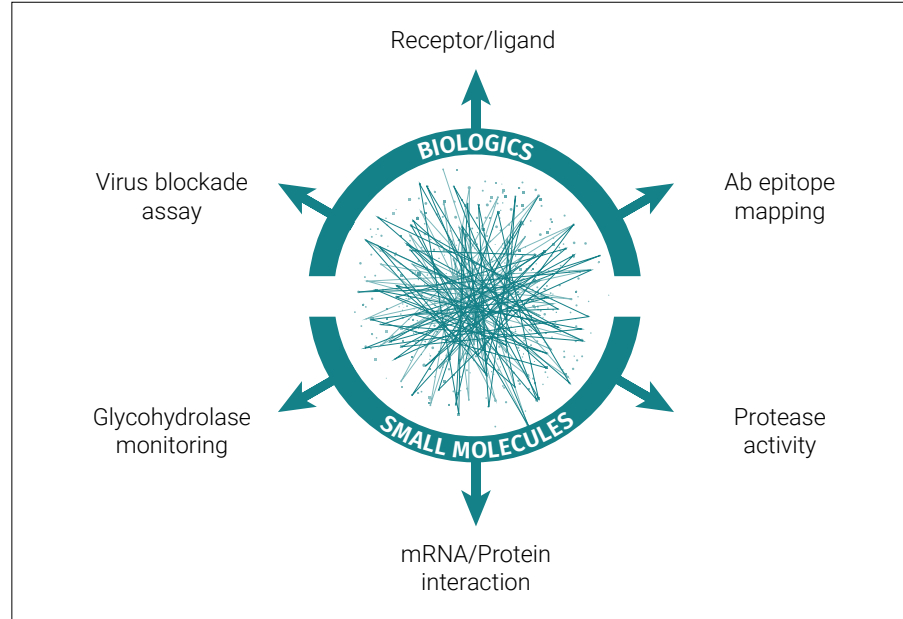
HARNESSING THE PROTEIN-PROTEIN INTERACTION BIOLOGY

It is estimated that the human interactome covers approximately 400,000 protein-protein interactions (PPI). Regardless of the therapeutic area, understanding and modulating biomolecular complexes is one of the leading challenges for discovering innovative drugs such as biologics and small molecules.

Over the past several years, researchers have developed an extraordinary diversity of add & read assays with Revvity HTRF reagents, including anti-tags, anti-species, Streptavidin, affinity tools, and PPI buffers.

This brochure is intended to reflect PPI versatility by showing six different examples taken from published papers.

The possibilities are truly unlimited. Our next example could be yours!



- Unlimited target configurations
- Straightforward add-and-read assays
- Comprehensive line of ready-to-use reagents & buffers
- Technical guide to facilitate the transition to HTRF

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**Glycohydrolase assay:
Poly ADP ribose-PARP cleavage**

Human rhinovirus blockade assay

mRNA/DGCR8 binding assay

**Receptor-ligand:
VEGFR/PIGF1, 2 binding assay**

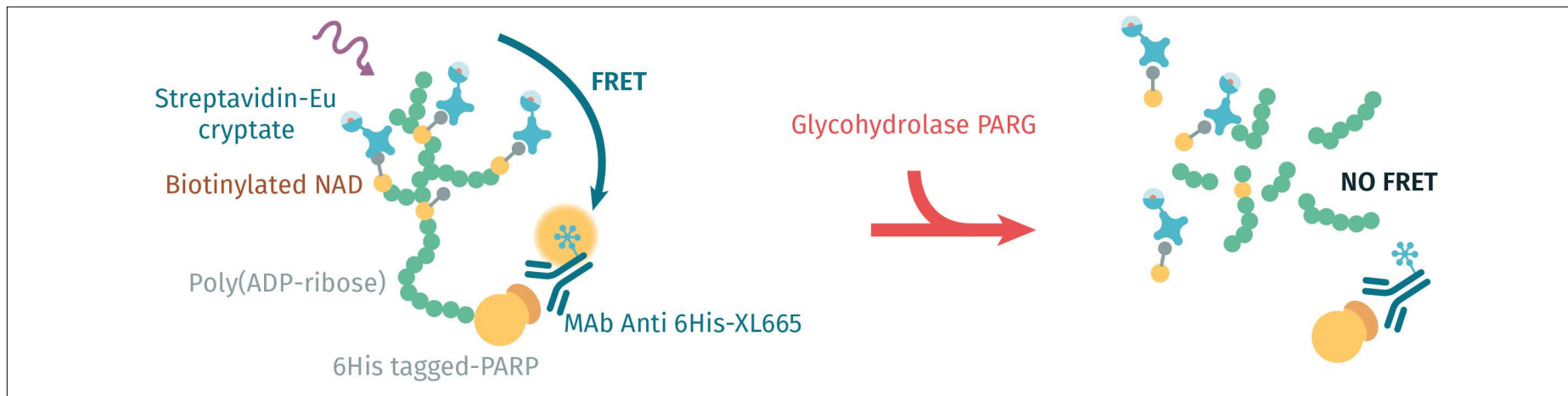
DEN1 protease assay

**Antibody epitope mapping:
CXCL13 case study**

Detection

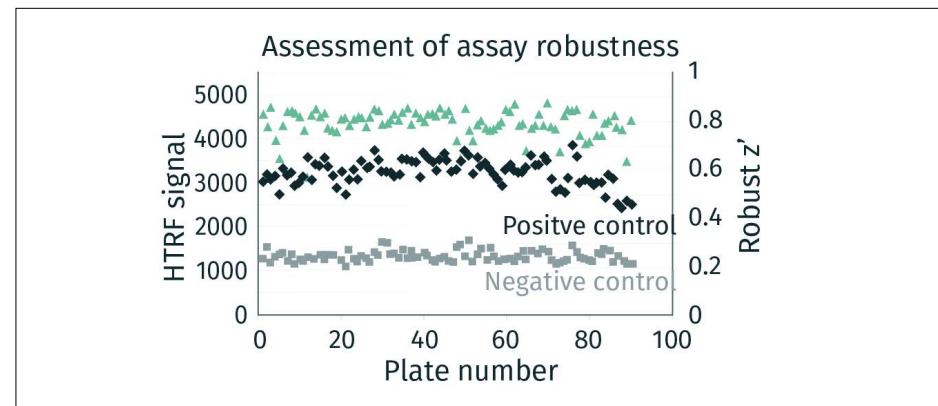
SMALL MOLECULES

Glycohydrolase assay: Poly ADP ribose-PARP cleavage



The context and why it is interesting:

- Post-translational modulator screening
- Addresses drug resistance mechanisms
- Program for oncology



A.I.J. Stowell et al. / Analytical Biochemistry 503 (2016) 58-64 Copyright © 2018 by Revvity. Reprinted by Permission of Elsevier.

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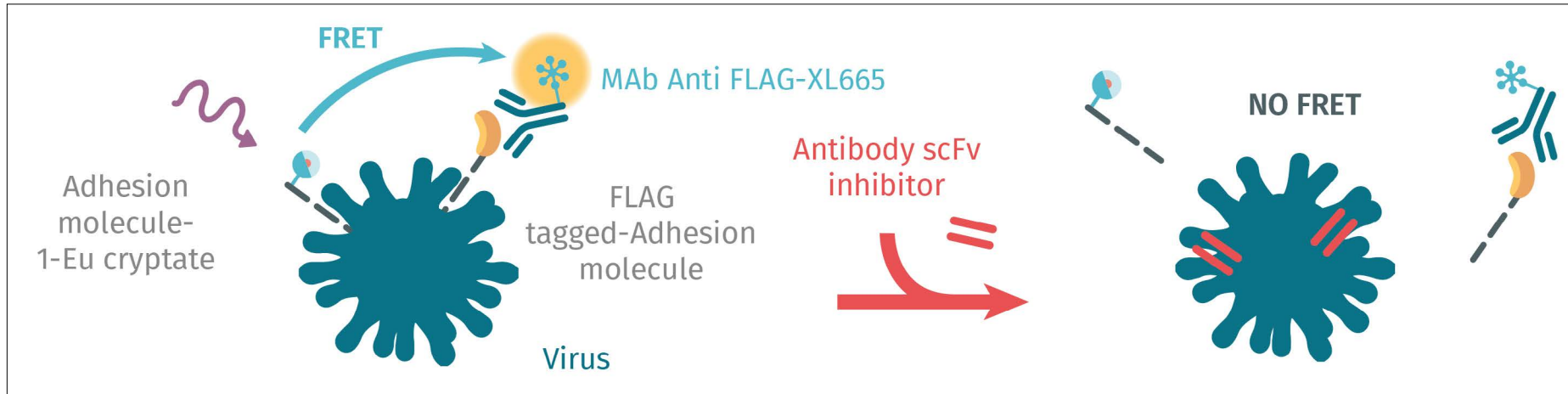
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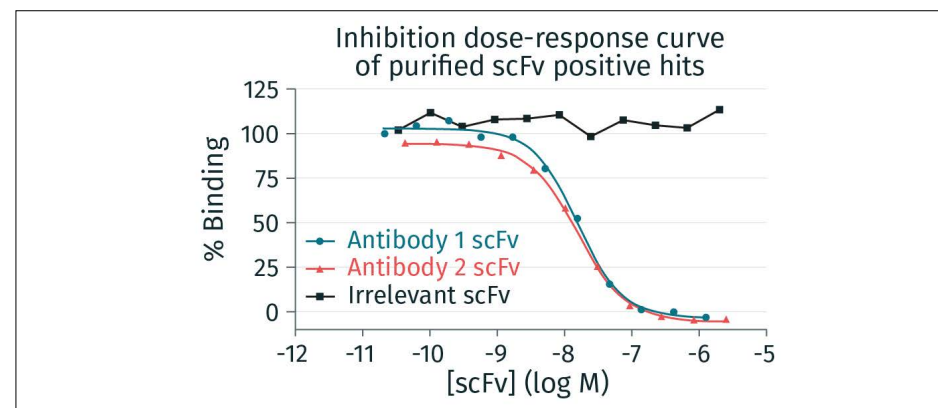
BIOLOGICS

Human rhinovirus blockade assay



The context and why it is interesting:

- Virus/Intercellular Adhesion Molecule (ICAM) inhibitor screening
- Multi-site avidity binding assay
- Program for Chronic Obstructive Pulmonary Disorder (COPD)



Newton et al. / Journal of Biomolecular Screening 18(3) (2012) 237–246 Copyright © 2018 by Revvity. Reprinted by Permission of SAGE Publications.

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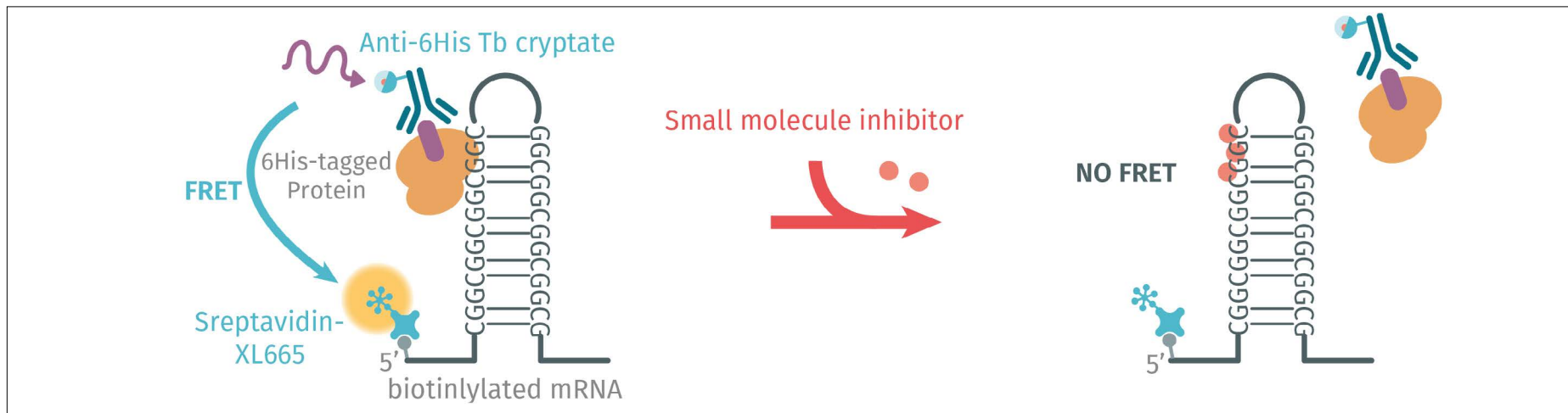
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SMALL MOLECULES mRNA/DGCR8 binding assay



The context and why it is interesting:

- Study of pre-mRNA splicing defects in Fragile X-associated Tremor Ataxia Syndrome (FTAX)
- Focus on loss-of-function action mechanism
- Program for neurological disorders

Identified Binders

| | 1a | 1b | 1c | 1d |
|---------------------------------------|--------------|-------------|--------------|-------------|
| Percentage displacement at 25 μ M | 85 \pm 1 | 91 \pm 5 | 96 \pm 9 | 87 \pm 5 |
| IC ₅₀ μ M | 13 \pm 0.4 | 8 \pm 0.3 | 13 \pm 0.2 | 7 \pm 0.2 |
| Kd, nM | 76 \pm 4 | 38 \pm 1 | 69 \pm 5 | 50 \pm 18 |

M.D.Disney et al. / ACS Chem Biol. 2012 October 19; 7(10): 1711–1718

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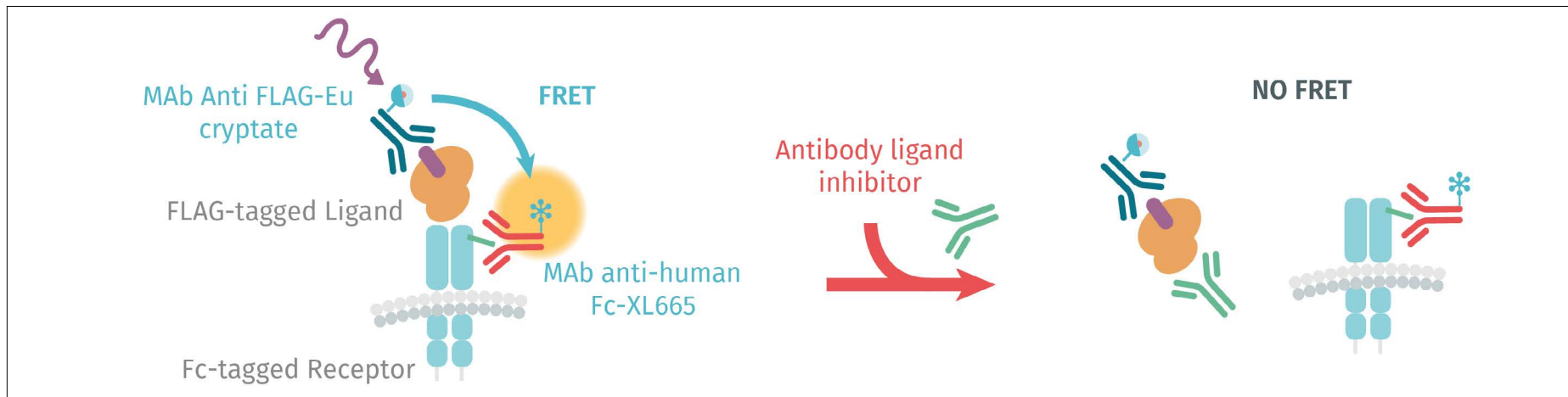
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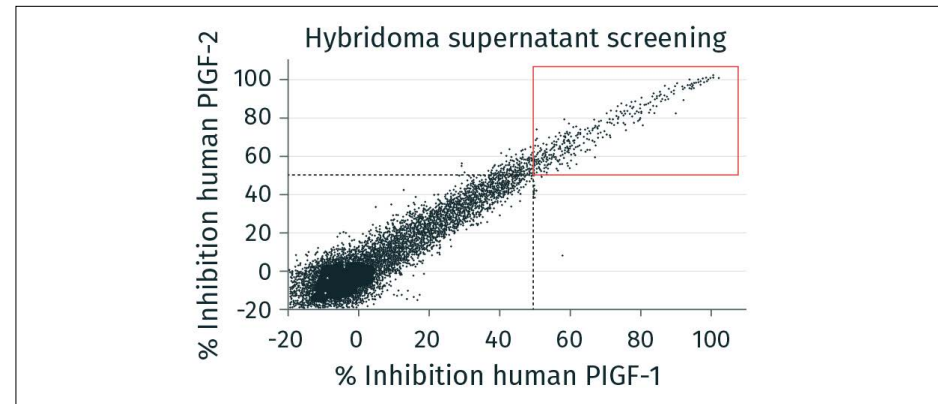
BIOLOGICS

Receptor-ligand: VEGFR/PIGF1, 2 binding assay



The context and why it is interesting:

- Identification of Anti human PIGF-1,2 blocking antibody
- Compatible with crude periplasmic extracts
- Biologics drug screening



C. J. Rossant / Journal of Biomolecular Screening 2015, Vol. 20(4) 508–518 Copyright © 2018 by Revvity Reprinted by Permission of SAGE Publications.

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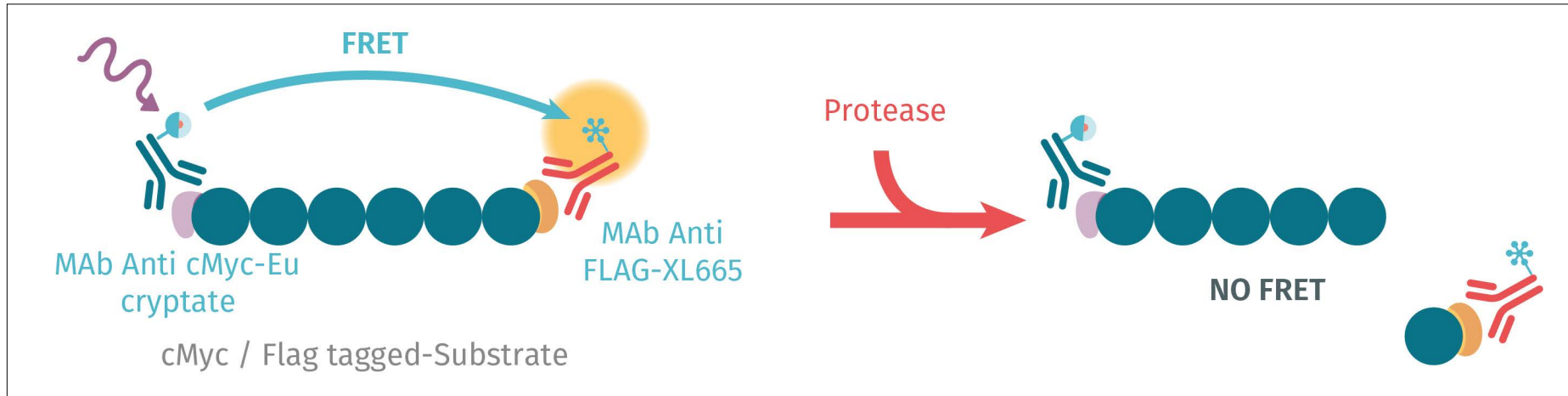
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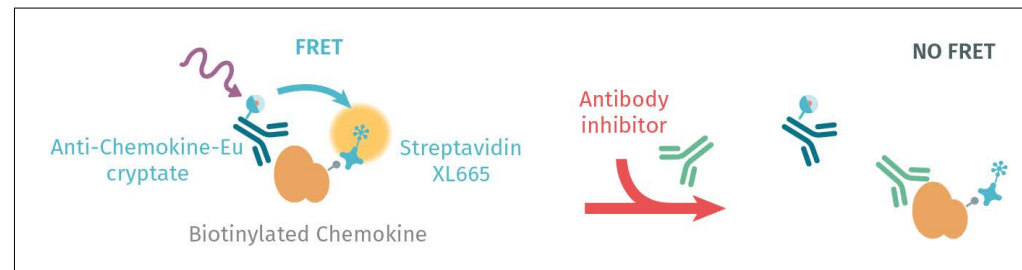
SMALL MOLECULES

DEN1 protease assay



The context and why it is interesting:

- Protein stability regulation related to proteasomal degradation
- Pivotal role in cell cycle progression and embryogenesis
- Program for cancer



Ingo H. Engels et al. / Analytical Biochemistry 390 (2009) 85–87 Copyright © 2018 by Revvity Reprinted by Permission of Elsevier.

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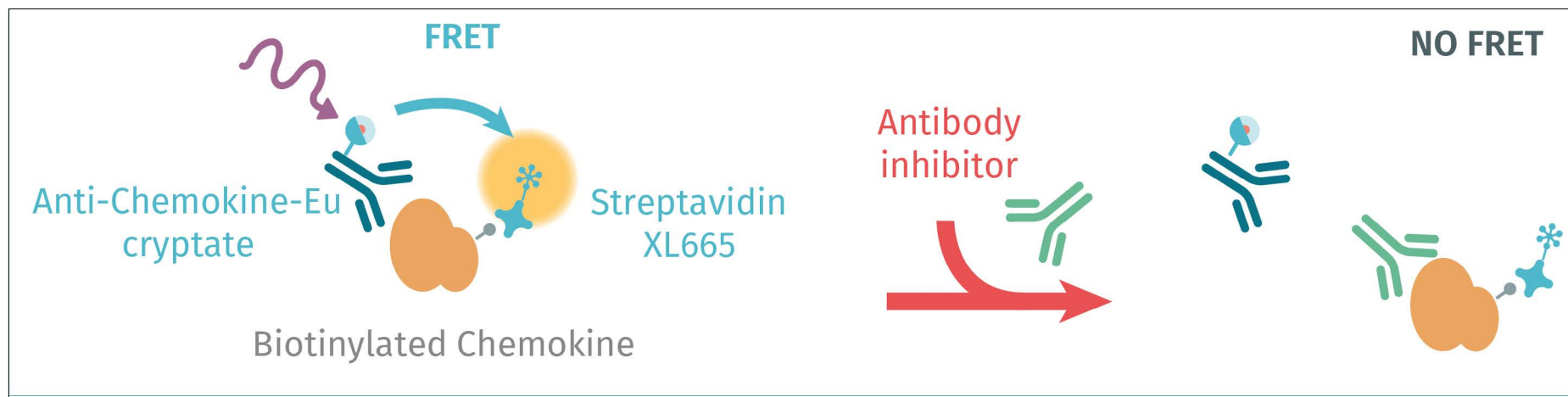
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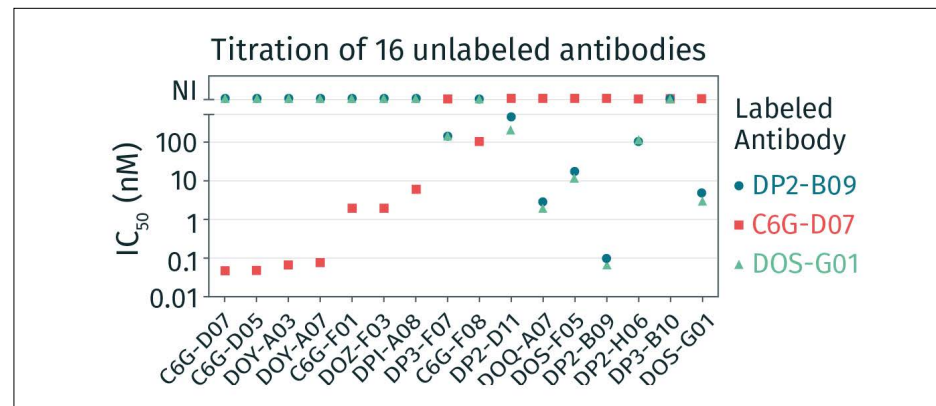
BIOLOGICS

Antibody epitope mapping: CXCL13 case study



The context and why it is interesting:

- Therapeutic antibody lead optimization programs
- Biologics epitope mapping and affinity maturation
- Bio-similar and bio-better drug development



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DETECTION

Choosing the right plate reader

Choosing the suitable microplate reader ensures you'll get an optimal readout. A multimodal reader gives your research the ideal flexibility and expands the field of possibilities by measuring a wide range of technologies.

Revvity offers multimode readers that are certified for use with HTRF technology. Certification involves rigorous testing of plate reader with HTRF technology to ensure optimal readout. HTRF assays are also compatible with multimode readers from other providers as well.



EnVision® Nexus™

Provides ultra-high throughput and maximum sensitivity across all detection technologies. It is ideal for complex assays to drive your scientific breakthroughs.



VICTOR® Nivo™

Packs all the latest major detection technologies into the industry's smallest benchtop footprint. The perfect microplate reader for everyday biochemical and cell-based assays.

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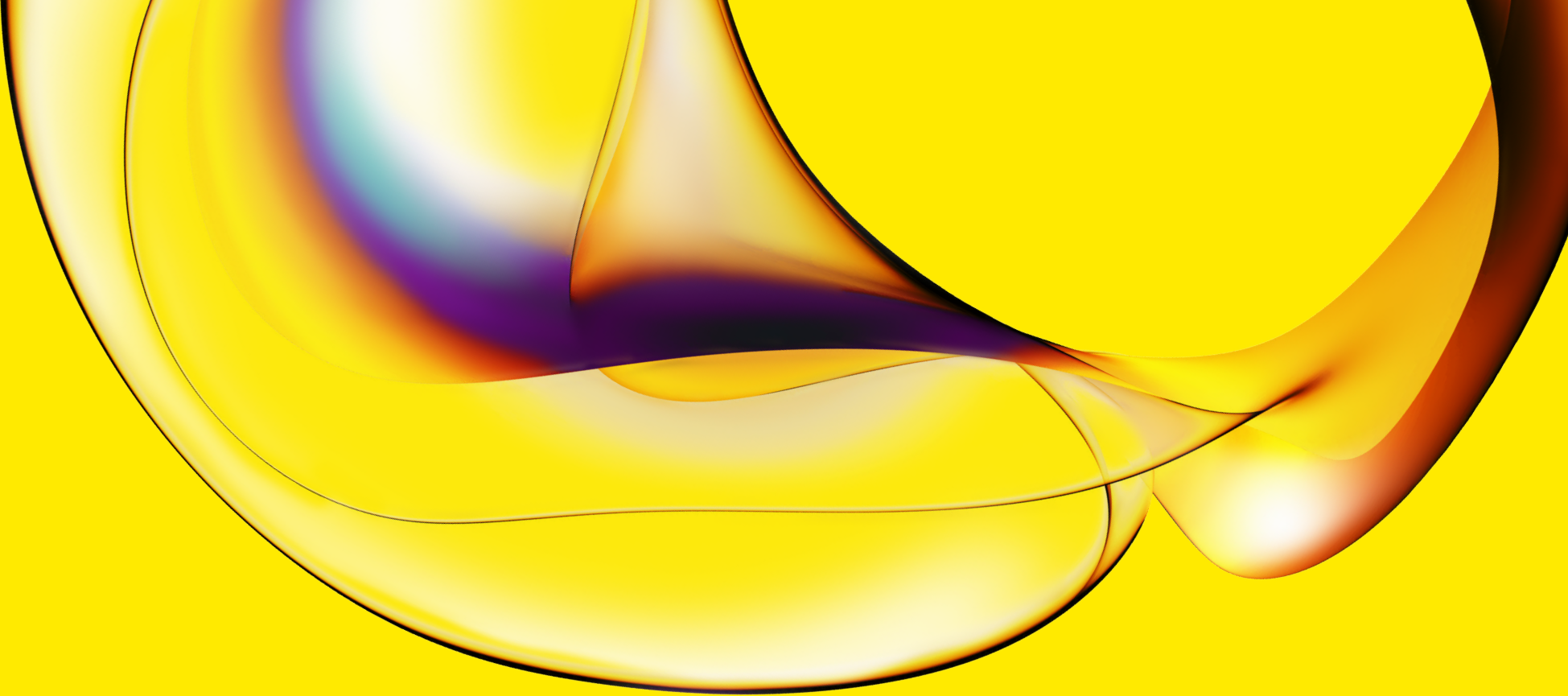
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