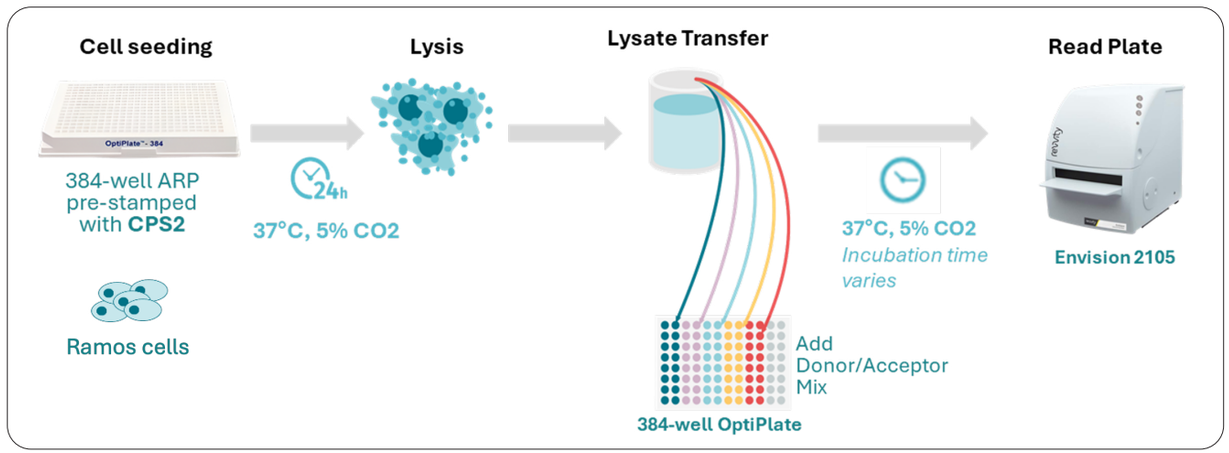
United in science.

Accelerating targeted protein degradation research with AlphaLISA *SureFire® Ultra* and HTRF no-wash immunoassays.

PROTAC-Mediated CDK2 Degradation in Oncology: A Case Study with Revvity and Beantown Biotech

Targeted protein degradation (TPD) using PROTACs is reshaping oncology drug discovery by selective degradation of key disease-driving proteins such as CDK2, a critical regulator of cell-cycle progression frequently dysregulated in cancer. Accurately detecting degrader-induced loss of endogenous proteins remains challenging with traditional techniques that are low throughput and resource intensive.

To address these limitations, Revvity collaborated with Beantown Biotech, a premier Boston-based drug discovery CRO, to develop a scalable, high-throughput workflow using AlphaLISA™ *SureFire® Ultra™* and HTRF™ no-wash immunoassays, supporting rapid measurement of CDK2 degradation in biologically relevant cell models while minimizing sample handling through a streamlined workflow.



Beantown Biotech's workflow using AlphaLISA *SureFire® Ultro* or HTRF 2-plate assay protocol.

Featured collaborators:

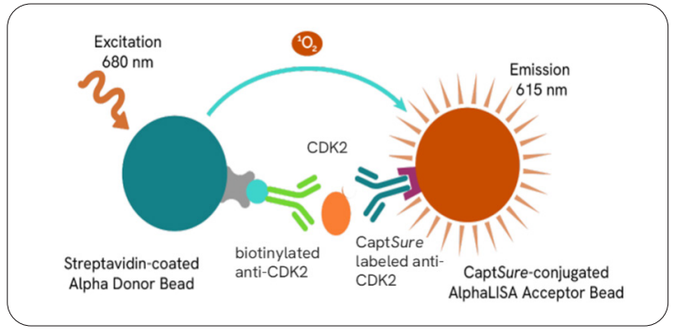
Rachel Mendes
Sr. Director, Beantown Biotech

James Roet
Sr. Sales Specialist, Revvity

"AlphaLISA *SureFire® Ultra* and HTRF are lanthanide-based no-wash immunoassay technologies that help overcome many limitations of traditional approaches for targeted protein degradation research. By enabling higher-throughput, streamlined workflows that have low sample volume requirements, these platforms deliver sensitive and selective detection of endogenous proteins, supporting efficient and reliable evaluation of PROTAC activity."

- Rachel Mendes

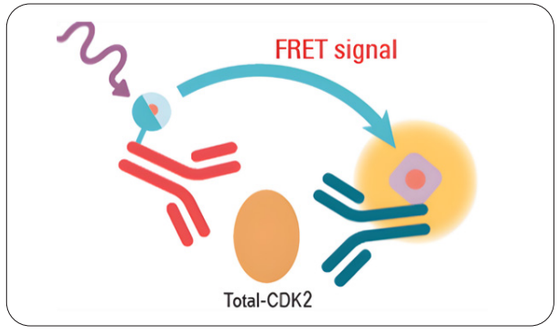
AlphaLISA *SureFire® Ultra*



AlphaLISA *SureFire® Ultra* Total CDK2 assay schematic.

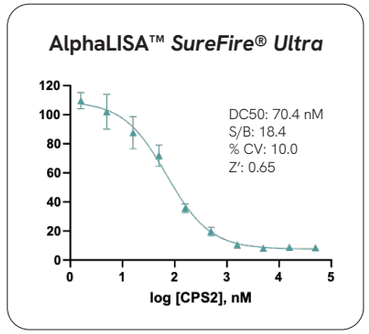
AlphaLISA *SureFire® Ultra* total CDK2 results:
A concentration-dependent reduction in CDK2 following CPS2 treatment was measured by AlphaLISA *SureFire® Ultra*. The assay demonstrated high sensitivity (S/B >17) and robustness (Z′ >0.5), demonstrating suitability for pre-clinical or research before screening applications.

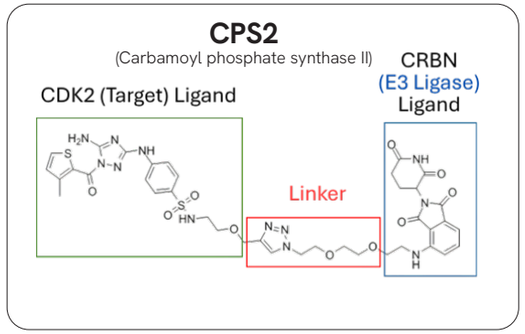
HTRF

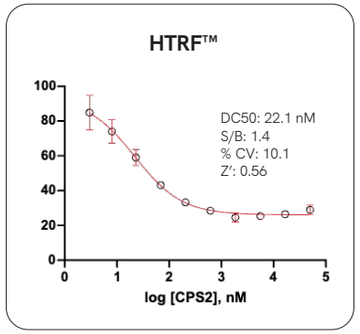


HTRF total CDK2 assay schematic.

HTRF total CDK2 results:
CPS2 treatment induced concentration-dependent CDK2 degradation, which was measured using HTRF. Z′ values >0.5 demonstrated its reproducibility and utility for pre-clinical or research before screening applications.

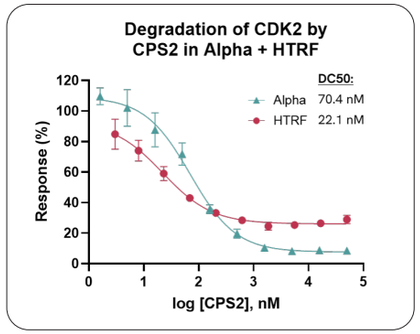






AlphaLISA *SureFire® Ultra* and HTRF for TPD research

Revvity's no-wash immunoassay technologies detection of CPS2-mediated CDK2 degradation in Ramos cells. AlphaLISA *SureFire® Ultra* showed a signal-to-background ratio of 18.4 and a Z′ score of 0.65, with a DC50 of 70.4 nM using 13,000 cells per well. HTRF produced a signal-to-background ratio of 1.4 and a Z′ score of 0.56, with a DC50 of 22.1 nM using 60,000 cells per well.



CDK2 assay	AlphaLISA *SureFire Ultra*	HTRF
CPS2 DC50	70.4 nM	22.1 nM
Cell #	13,000	60,000
S/B	18.4	1.4
% CV	10.0	10.1
Z'	0.65	0.56

Overall, AlphaLISA *SureFire® Ultra* and HTRF immunoassays demonstrated suitability for high-throughput TPD research, delivering performance with minimal sample input while scalable, streamlined workflows that accelerate PROTAC characterization using simplified protocols, and improved pre-clinical or research before screening efficiency.

Explore the technologies:

- AlphaLISA *SureFire® Ultra*
- HTRF

Visit www.revvity.com to learn more about Revvity's immunoassay portfolio for advancing scientific research and drug discovery.

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