LifeSensors TUBEs:
TANDEM UBIQUITIN BINDING ENTITIES

POLYUBIQUITIN BINDING DOMAINS

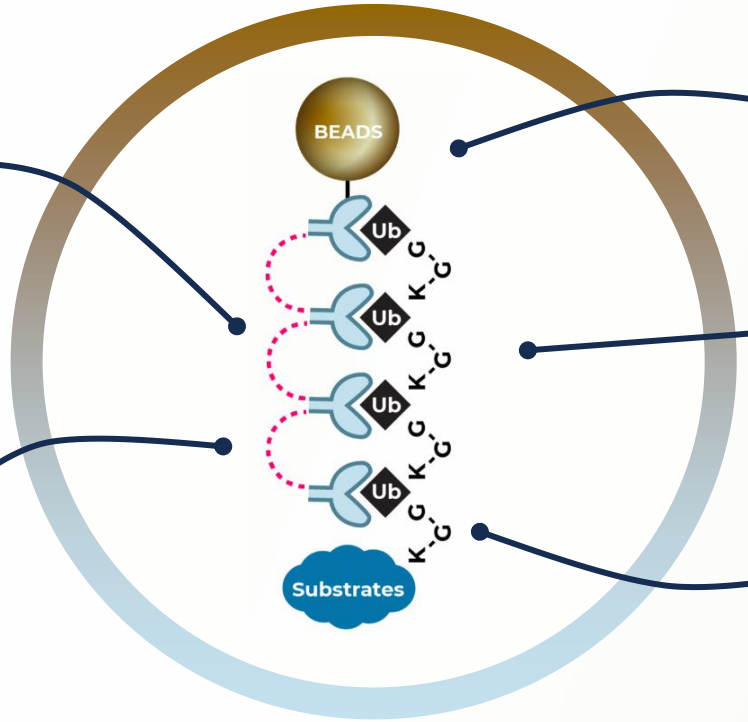
LifeSensors Inc. Mission

- Leadership in UPS, PROTAC, DUBTAC, and Molecular Glues
- Drug Discovery, UPS Enzymes, DUBs, PROTAC Screening Services
- Biomarker Development and Collaborative Research
- ~500 Products, DUBs, E3 ligases, Ubiquitin Affinity Matrices (TUBEs), Assay Kits and Proprietary Protein Expression Systems (SUMO)
- Profiling Compounds Against Ubiquitin Ligases and DUBs

TUBEs:
TANDEM UBIQUITIN BINDING ENTITIES

Ubiquitin Binding domains - specificity

Engineered for chain Selectivity



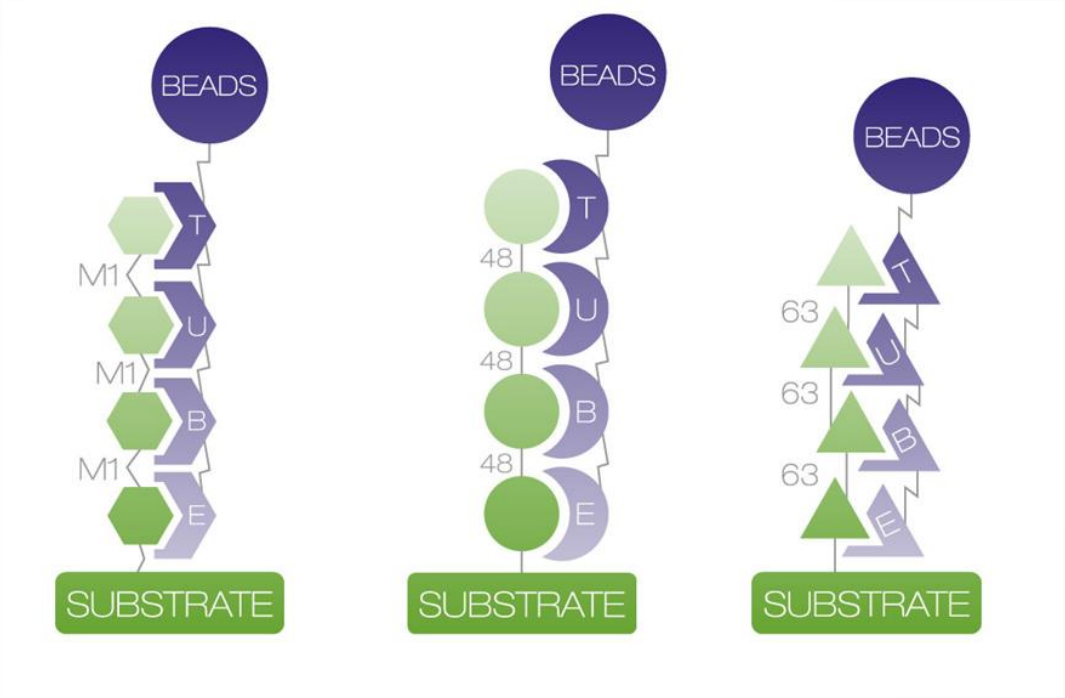
Versatile applications

Sub-nanomolar affinity binding

Protection against intrinsic DUBs

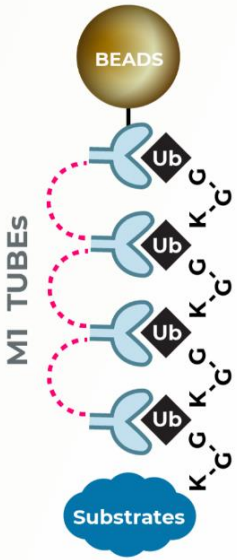
What are TUBEs?

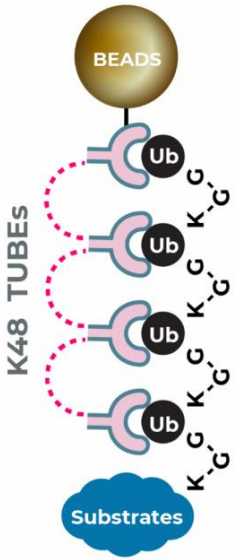
TUBEs are high affinity ‘ubiquitin traps’ that capture poly-ubiquitinated proteins with low nanomolar affinity.

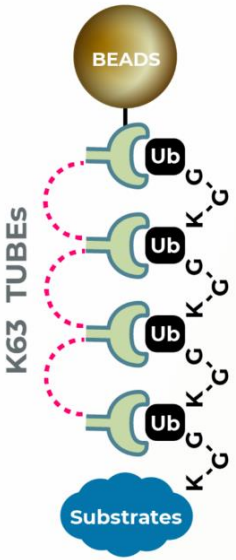


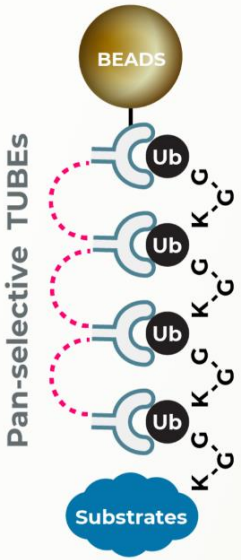
TUBEs can be used for capture or detection of total polyubiquitin or enrichment of linkage specific proteins K63-linked polyubiquitin K48-linked polyubiquitin, and M1-linked polyubiquitin.

TANDEM UBIQUITIN BINDING ENTITIES (TUBEs)

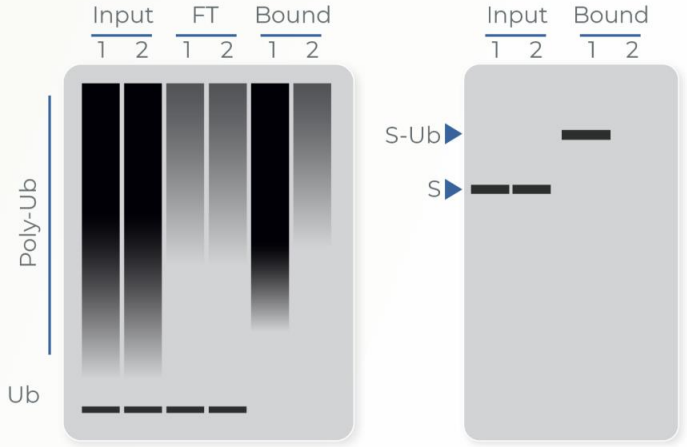




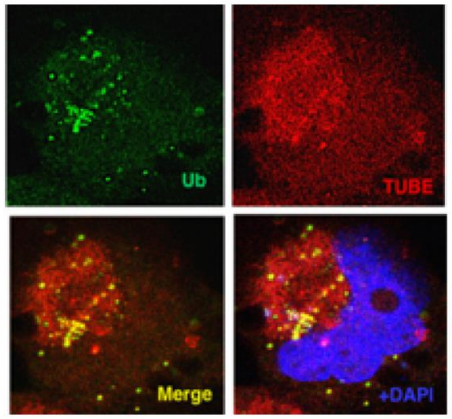




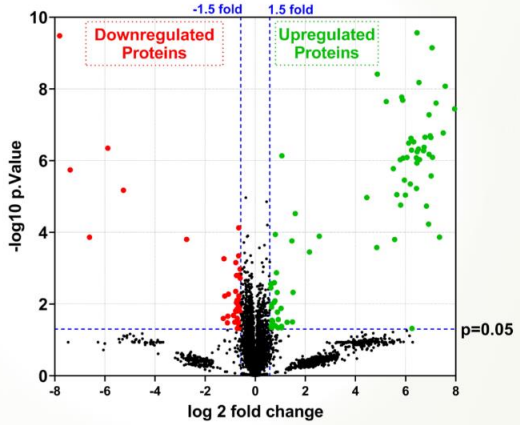
Poly-Ubiquitin Substrate Enrichment & Western Blotting



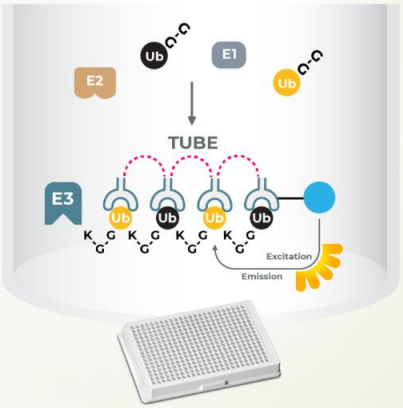
Fluorescent Microscopy



Mass Spectrometry Ubiquitomics



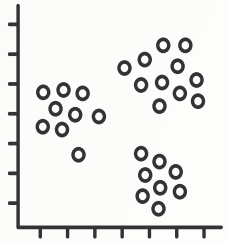
High-Throughput Screening



TUBEs address critical TPD challenges

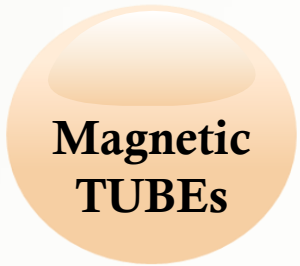
Strong binders / better K_D does not guarantee better degradation

Ternary complex rigidity

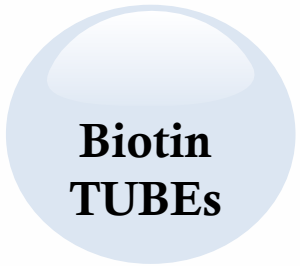


Ligand dependent ubiquitination, true functional HTS

The Power of TUBE Applications



Pull-down of polyubiquitinated proteins



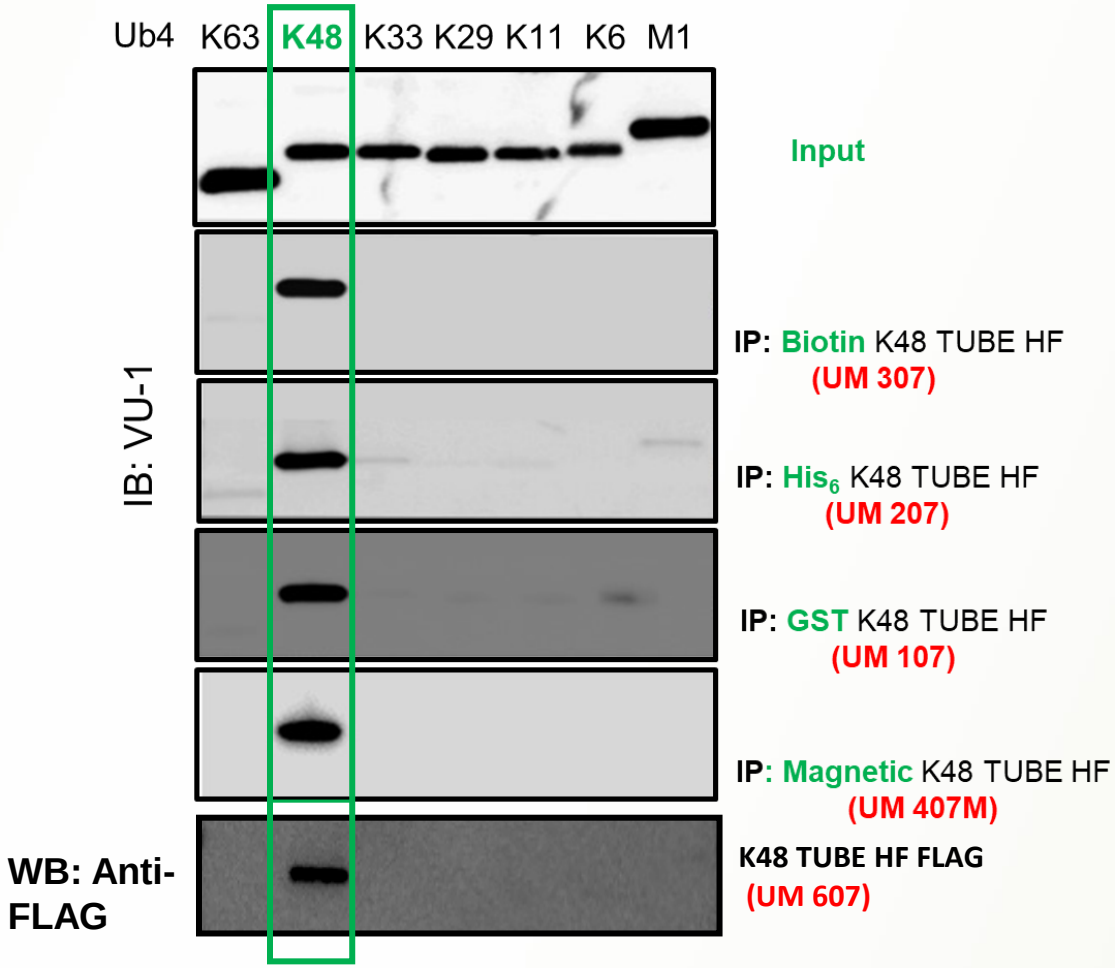
Histochemistry/ Cytochemistry

Biomarkers

'Far Western' blot

Mass Spec & Proteomics

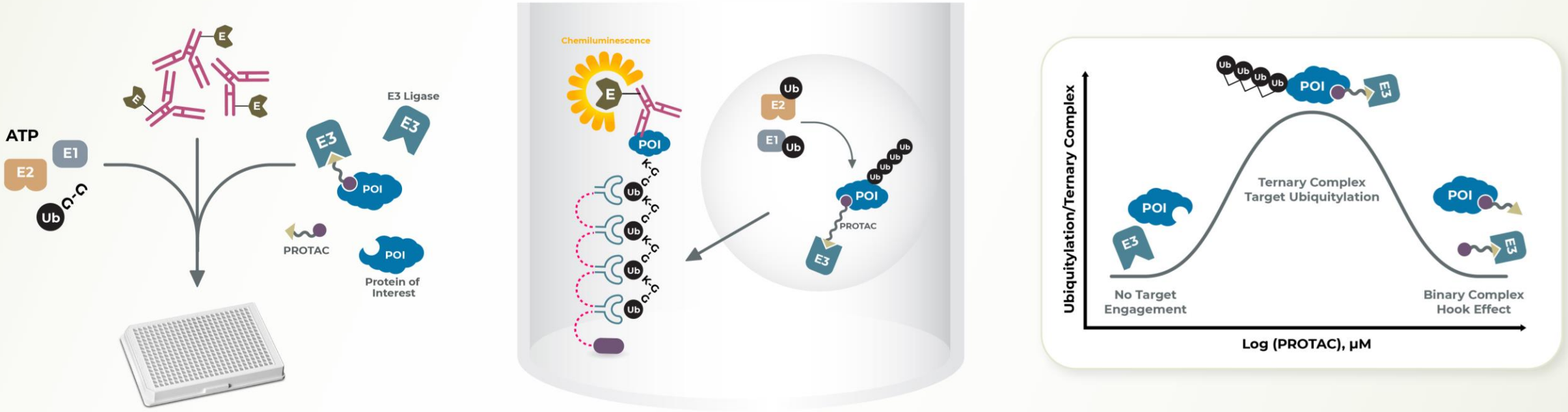
Lysine 48 Poly-ubiquitin TUBES are Highly Selective



K48 TUBE HF FLAG detects only K48-linked ubiquitin chains in Western Blots

TUBE Application for HTS- In Vitro Biochemical Assay

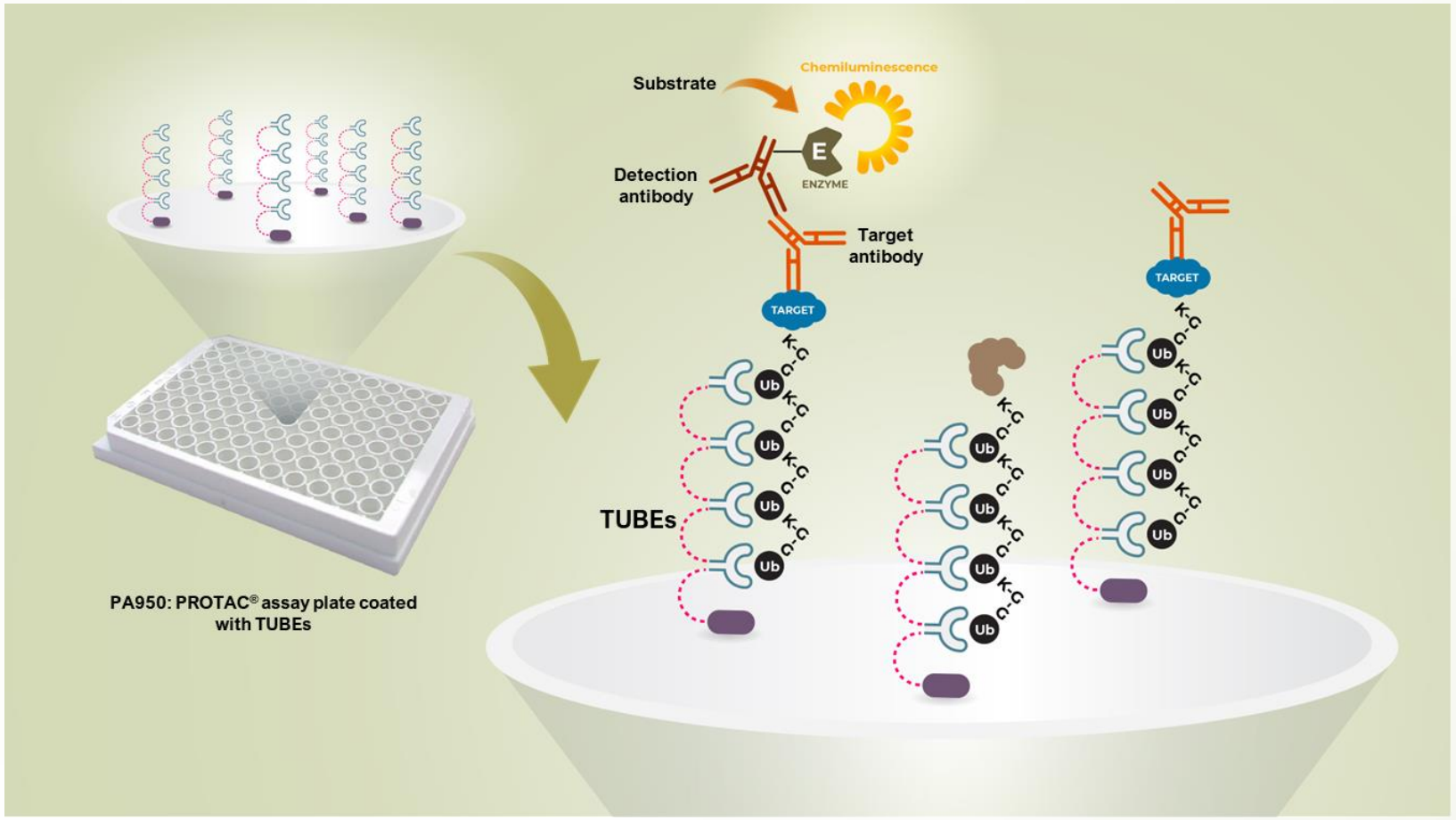
To study functional ternary complex and 'PROTACability'



TUBE Capture & PROTAC Mediated Ubiquitination of POI Detection

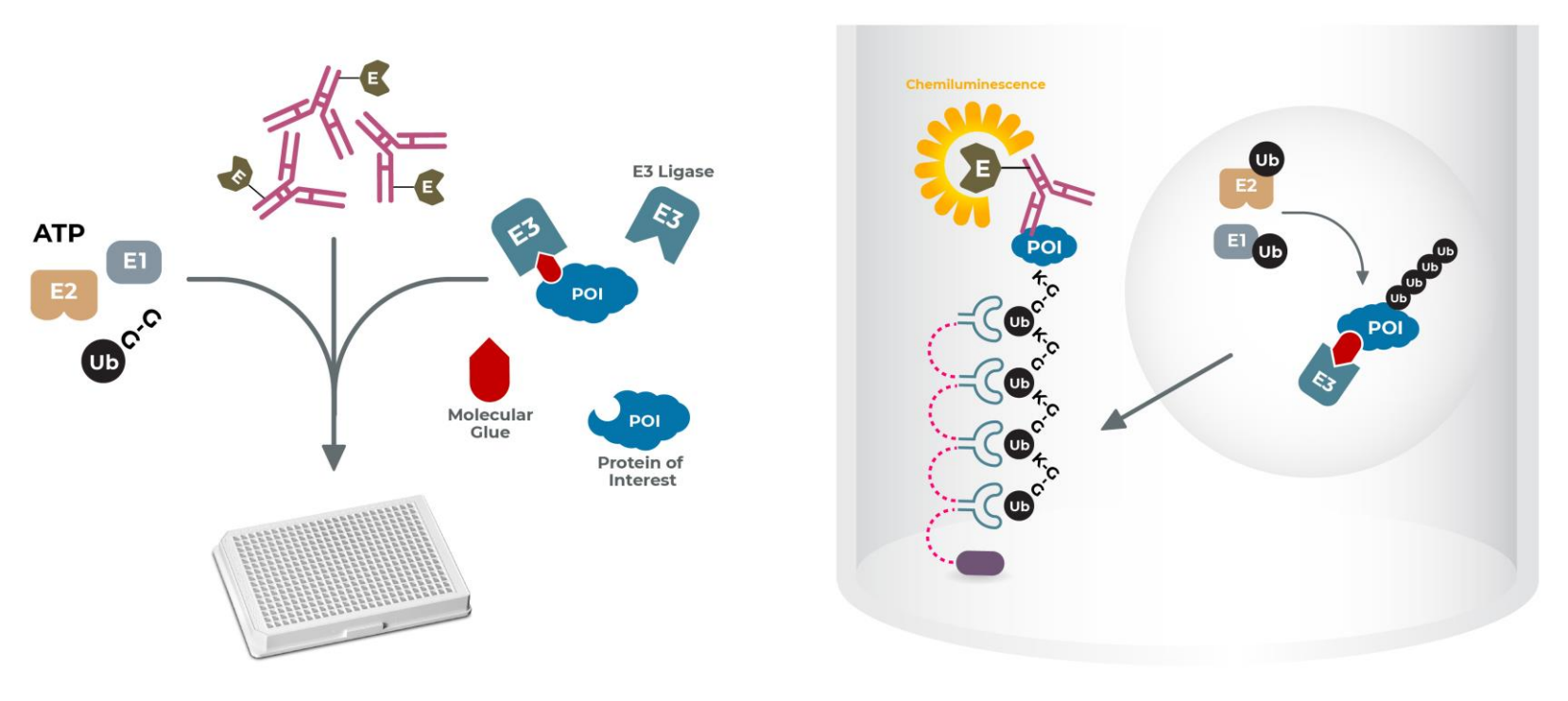
Cell-Based PROTAC Assay using TUBE-coated plate

Directly monitor PROTAC-mediated ubiquitination and degradation of target protein

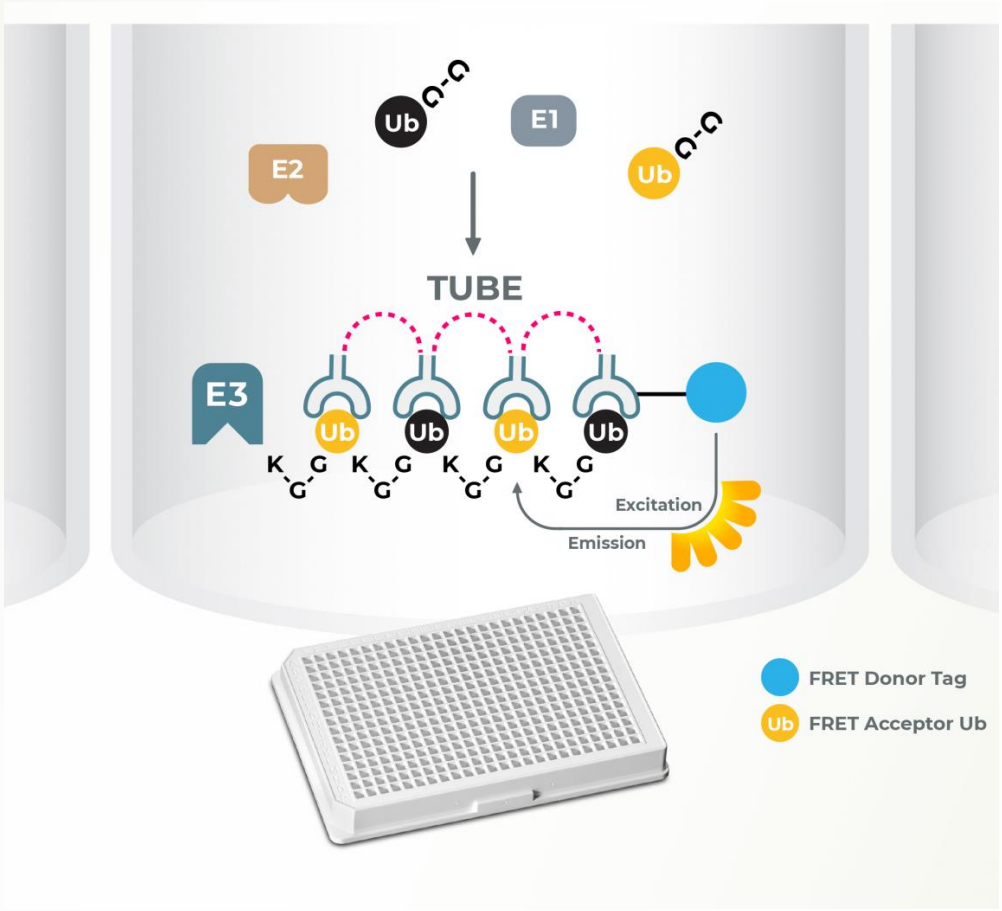


TUBEs' Role in Molecular Glue Discovery

Study Molecular Glue mediated ubiquitination and degradation simultaneously



TUBEs Facilitate Discovery of Novel E3 Ligase for KRAS



- ✓ High throughput screening for E3 ligase activators
- ✓ Homogenous assay for library screening
- ✓ Identification of novel E3 ligands
- ✓ SPR / TSA based confirmation and PROTACability

Novel Application of TUBES, in addition to Ubiquitination Studies

- ✓ Remarkable tool for monitoring PROTAC and molecular glue function
- ✓ HTS of in vivo ubiquitylated proteins
- ✓ Isolation of PROTAC/Mol Glue mediated ubiquitylated substrates from cell lysates
- ✓ Ubiquitin mass spec proteomics bypassing SILAC
- ✓ Perform E3 ligase assays using TR-FRET assays
- ✓ Superior to antibodies, detection by Western blot
- ✓ Imaging tools for In situ detection with fluorescence

Thank You

We are your partner in UPS, TUBEs, DUBs, E3s, PROTAC, Mol Glue, Protein Expression, CAR-T/Gene therapy and vaccine development

Contact Us!

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