

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten! See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
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Description

Covalent conjugation to ubiquitin (Ub) is one of the major post-translational modifications that regulates protein stability, function, and localization. Ubiquitination is the concerted action of three enzymes: a Ub-activating enzyme (E1), a Ub-conjugating enzyme (E2), and a Ub ligase (E3). The specificity and efficiency of ubiquitination are largely determined by the E3 enzyme, which directs the last step of the Ub-conjugating cascade by binding to both an E2~Ub conjugate and a substrate protein. This step ensures the transfer of Ub from E2~Ub to the substrate, leading to its mono- or poly-ubiquitination.

The X-linked inhibitor of apoptosis (XIAP) protein is a RING-containing E3 Ub ligase which has the ability to directly regulate caspases and suppress apoptotic cell death pathways. An increased expression level of XIAP has been shown for many cancer types and is associated with cancer cell migration. Like most E3 ligases, XIAP ubiquitinates itself.

The XIAP intrachain TR-FRET Assay Kit is a sensitive high-throughput screening (HTS) TR-FRET Assay Kit, designed to measure XIAP auto-ubiquitination activity in a homogeneous 384 reaction format. It utilizes a Europium cryptate-labeled Ub (donor) as well as Cy5-labeled Ub (acceptor) to complete the TR-FRET pairing. Since both the TR-FRET donor and acceptor are incorporated into poly-ubiquitin chains formed on XIAP, this FRET-based assay requires no time-consuming washing steps, making it especially suitable for HTS applications as well as real-time kinetics analyses of polyubiquitination.

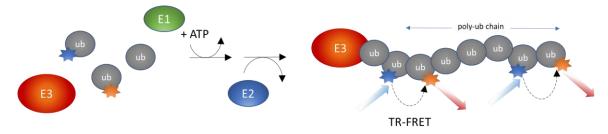


Figure 1. XIAP intrachain TR-FRET Assay Kit schematic

Applications

Great for screening molecules that inhibit XIAP Ub ligase activity HTS applications in drug discovery, for determination of compound IC_{50} and for XIAP real-time kinetics analyses.

Supplied Materials

Catalog #	Name	Amount	Storage	
80301	UBE1 (E1)*	25 μg	-80°C	
80314	UBCH5b (E2)*	300 μg	-80°C	Avoid
80401	XIAP, FLAG-tag (E3)*	15 μg	-80°C	multiple
78307	TRF Ubiquitin Mix (200x)	50 μΙ	-80°C	freeze/ thaw
	ATP (4 mM)	150 μΙ	-80°C	cycles
78269	CBL assay buffer 2	2x10ml	-80°C	
	White, nonbinding, low volume microtiter plate		Room Temp	

^{*} The initial concentration of enzyme is lot-specific and will be indicated on the tube containing the protein.



Materials Required but Not Supplied

- Fluorescent microplate reader capable of measuring Time Resolved Fluorescence Resonance Energy Transfer (TR-FRET)
- Adjustable micropipettor and sterile tips
- Rotating or rocker platform

Storage Conditions



This assay kit will perform optimally for up to 6 months from date of receipt when the materials are stored as directed. **Avoid multiple freeze/ thaw cycles!**

Safety



This product is for research purposes only and not for human or therapeutic use. This product should be considered hazardous and is harmful by inhalation, in contact with skin, eyes, clothing, and if swallowed. If contact occurs, wash thoroughly.

Contraindications

The XIAP intrachain TR-FRET Assay Kit is compatible with up to 1% final DMSO concentration. We recommend preparing the inhibitor in no higher than 5% DMSO solution in buffer and using 4 µl per well.

Assay Protocol

- All samples and controls should be performed in triplicates
- The assay should include a "Blank", a "Positive control", and a "Negative control"
- 1) Thaw UBE1, UBCH5b, XIAP, TRF Ubiquitin Mix, CBL assay buffer 2, and ATP on ice. Aliquot each protein, assay buffer, and ATP into single-use aliquots and immediately store at -80°C. Note: UBE1, UBCH5b, XIAP, TRF Ubiquitin Mix, and CBL assay buffer 2 are sensitive to freeze/thaw cycles. Avoid multiple freeze-thaw cycles.
- 2) Carefully calculate the amount of each protein needed and prepare appropriate amounts of diluted proteins:

Prepare 5x TRF Ubiquitin Mix in CBL assay buffer 2 (40-fold dilution of the 200x TRF Ubiquitin Mix); Dilute the UBE1 in CBL assay buffer 2 at 400 nM (48 ng/ μ l) (final concentration in reaction 20 nM); Dilute the UBCH5b in CBL assay buffer 2 at 10 μ M (720 ng/ μ l) (final concentration in reaction 500 nM); Dilute the XIAP in CBL assay buffer 2 at 100 nM (5.7 ng/ μ l) (final concentration in reaction 25 nM);

Keep all diluted proteins on ice until use.

3) Prepare the compound solution.



If the compound is dissolved in DMSO, make a 100-fold higher concentration of the compound in DMSO than the highest concentration you want to test in the assay. Then dilute 20-fold in CBL assay buffer 2 (at this step the compound concentration is 5-fold higher than the desired final concentration). If you want to run an IC_{50} or test lower concentrations of the compound, prepare serial dilutions using 1X assay buffer containing 5% DMSO, so the final concentration of DMSO will be 1% in all samples.

If the compound is soluble in water, prepare a solution of the compound in CBL assay buffer 2 that is 5-fold higher than the final assay concentration.

4) To the wells designated as "Blank", add 4 μ l of **5x TRF Ubiquitin Mix** + 1 μ l of **UBE1** + 1 μ l of **UBCH5b** + 4 μ l of **diluent solution** (for example DMSO 5%) + 5 μ l of **CBL assay buffer 2**.

	Blank
TRF Ubiquitin Mix (5x)	4 μΙ
UBE1	1 μl
UBCH5b	1 μl
XIAP	-
Test Compound	-
Diluent solution* (no inhibitor)	4 μl
CBL assay buffer 2	5 μΙ
ATP (4 mM)	5 μΙ
Total	20 μΙ

^{*}The diluent solution contains the assay buffer with the same concentration of solvent (e.g. DMSO) as the test compound solution.

5) Make the master mixture using diluted reagents:

N wells \times (4 μ l 5x TRF Ubiquitin Mix + 1 μ l UBE1 + 1 μ l UBCH5b + 5 μ l XIAP).

- 6) Add 11 μ l of master mixture to each well designated for the "Negative Control", "Positive Control", "Test Sample".
- 7) Add 4 μ l of inhibitor solution to each well designated "Test Inhibitor". For all other wells: "Positive Control", "Negative Control", add 4 μ l of the diluent solution without inhibitor.
- 8) Initiate the reaction by adding 5 μl of **ATP** to the wells labeled "Positive Control," "Test Inhibitor," and "Blank." Add 5 μl of **CBL** assay buffer 2 to the well designated "Negative Control." Cover the plate with a plate sealer. Incubate the reaction at room temperature for two hours or at 30°C for one hour.



	Test	Negative	Positive
	Sample	Control	Control
Master Mix	11 µl	11 μl	11 μl
Test compound	4 μΙ	-	-
Diluent solution* (no inhibitor)	_	4 μΙ	4 μΙ
CBL assay buffer 2	-	5 μΙ	-
ATP (4 mM)	5 μΙ	-	5 μΙ
Total	20 μΙ	20 μΙ	20 μΙ

^{*}The diluent solution contains the assay buffer with the same concentration of solvent (e.g. DMSO) as the test compound solution.

9) Read the fluorescent intensity in a microtiter-plate reader capable of measuring TR-FRET. "Blank" value is subtracted from all other values.

Instrument Settings

Reading Mode	Time Resolved	
Excitation Wavelength	340±20 nm	
Emission Wavelength	620±10 nm	
Lag Time	60 μs	
Integration Time	500 μs	
Excitation Wavelength	340±20 nm	
Emission Wavelength	665±10 nm	
Lag Time	60 μs	
Integration Time	500 μs	

CALCULATING RESULTS:

Two sequential measurements should be conducted. Tb-donor emission should be measured at 620 nm followed by dye-acceptor emission at 665 nm. Data analysis is performed using the TR-FRET ratio (665 nm emission/620 nm emission).

When percentage activity is calculated, the FRET value from the Blank (it is expected that Blank and Negative Control represent similar value) can be set as zero percent activity and the FRET value from the positive control can be set as one hundred percent activity.

% Activity =
$$\frac{FRET_s - FRET_{blank}}{FRET_p - FRET_{blank}} \times 100\%$$

Where FRETs = Sample FRET, FRET_{blank} = Blank FRET, and FRET_P = Positive control FRET.



Example Results

XIAP TR-FRET Activity

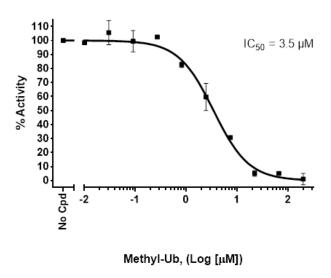


Figure 1: Inhibition of XIAP auto-ubiquitination by Methylated Ubiquitin, measured using the XIAP intrachain TR-FRET Assay Kit, BPS Bioscience #78306. Data shown is representative. For lot-specific information, please contact BPS Bioscience, Inc. at support@bpsbioscience.com.

Troubleshooting Guide

Visit bpsbioscience.com/assay-kits-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com



Related Products

Cereblon intrachain TR-FRET Assay Kit	Products	Catalog #	Size
MDM2 intrachain TR-FRET Assay Kit 78302 384 rxns. SMURF1 intrachain TR-FRET Assay Kit 78303 384 rxns. SMURF2 intrachain TR-FRET Assay Kit 78304 384 rxns. VHL intrachain TR-FRET Assay Kit 78305 384 rxns. MDM2 TR-FRET Assay Kit 79773 384 rxns. CBL B TR-FRET Assay Kit 79575 384 rxns. Cereblon Ubiquitination Homogenous Assay Kit 79786 384 rxns. UBCH513 TR-FRET Assay Kit 79881 384 rxns. UBCH513 TR-FRET Assay Kit 79900 384 rxns. UBCH52 TR-FRET Assay Kit 79901 384 rxns. UBCH55 TR-FRET Assay Kit 79901 384 rxns. UBCH56 TR-FRET Assay Kit 79901 384 rxns. UBCH56 TR-FRET Assay Kit 79901 384 rxns. UBC1 (UBA1), FLAG-tag 80301 100 μg UBE1 (UBA1), FLAG-tag 80301 100 μg UBE1 (UBA1), FLAG-tag 80301 100 μg UBE2A, His-Tag 79368 20 μg UBE2A, His-Tag 79370 20 μg UBE2A, His-T		78301	384 rxns.
SMURF2 intrachain TR-FRET Assay Kit 78304 384 rxns. VHL intrachain TR-FRET Assay Kit 78305 384 rxns. MDM2 TR-FRET Assay Kit 79773 384 rxns. CBL-B TR-FRET Assay Kit 79575 384 rxns. c-CBL TR-FRET Assay Kit 79786 384 rxns. UBCH13 TR-FRET Assay Kit 79741 384 rxns. UBCH3 TR-FRET Assay Kit 79900 384 rxns. UBCH5c TR-FRET Assay Kit 79901 384 rxns. UBCH5c Tr-		78302	384 rxns.
VHL intrachain TR-FRET Assay Kit MDM2 TR-FRET Assay Kit CBL-B TR-FRET Assay Kit CBL-B TR-FRET Assay Kit CPST-TS-S 384 rxns. 27975 384 rxns. 27986 384 rxns. Cereblon Ubiquitination Homogenous Assay Kit 79786 384 rxns. Cereblon Ubiquitination Homogenous Assay Kit UBCH13 TR-FRET Assay Kit UBCH5a TR-FRET Assay Kit UBCH5a TR-FRET Assay Kit UBCH5a TR-FRET Assay Kit UBCH5b TR-FRET Assay Kit DBCH5b TR-FRET Assay Kit UBCH5b TR-FRET Assay Kit UBCH5b TR-FRET Assay Kit UBCH5b TR-FRET Assay Kit DBCH5b TR-FRET Assay Kit DB	SMURF1 intrachain TR-FRET Assay Kit	78303	384 rxns.
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CBLB TR-FRET Assay Kit 79575 384 rxns. c-CBL TR-FRET Assay Kit 79786 384 rxns. Cereblon Ubiquitination Homogenous Assay Kit 79881 384 rxns. UBCH3 TR-FRET Assay Kit 799741 384 rxns. UBCH5a TR-FRET Assay Kit 79900 384 rxns. UBCH5c TR-FRET Assay Kit 79901 384 rxns. UBCH5b TR-FRET Assay Kit 79866 384 rxns. UBCH5l (UBA1), FLAG-tag 80301 100 μg UBE1, GST-Tag (Human) 100 μg 100 μg UBE2D, His-Tag 79368 20 μg UBE2DG, His-Tag 79370 20 μg UBE2SC (UBC7), His-Tag 79371 20 μg UBE2CG (UBC7), His-Tag 79372 20 μg UBE2O, GST-Tag 79374 20 μg UbcH5a (UBE2D1), His-tag 80315 100 μg UbcH7, His-tag (E-coil-derived) 80316 <td< td=""><td>VHL intrachain TR-FRET Assay Kit</td><td>78305</td><td>384 rxns.</td></td<>	VHL intrachain TR-FRET Assay Kit	78305	384 rxns.
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UBE1 (UBA1), FLAG-tag UBE1, GST-Tag UBE2A, His-Tag UBE2C, His-Tag UBE2D2, His-Tag UBE2D2, His-Tag UBE2B3 (UBCH9), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC7), His-Tag UBE2C, GST-Tag UBE2G1 (UBC7), His-Tag UBE2K (UBC1), His-Tag UBE2K (UBC1), His-Tag UBE2C, GST-Tag UBE2C, His-Tag UBE2C, His-Tag UBE2C, UBC1), His-Tag UBE2C, UBC1), His-Tag UBE2C, GST-Tag UBE2C, His-tag UBE2C, UBE	UBCH5b TR-FRET Assay Kit	79896	384 rxns.
UBE1, GST-Tag UBE2A, His-Tag UBE2C, His-Tag UBE2D2, His-Tag UBE2D2, His-Tag UBE2B3 (UBCH9), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC7), His-Tag UBE2O, GST-Tag UBE2O, GST-Tag UBE2D1), His-tag UBE2D1), His-tag UBE2D1), His-tag UBE2B3 (UBE2D1), His-tag UBE2D3 (UBC7), His-Tag UBE2D4 (UBC7), His-Tag UBE2D5 (UBC7), His-Tag UBE2D6 (UBC7), His-Tag UBE2D7 (UBC7), His-Tag UBE2D7 (UBE2D1), His-tag UBE2D8 (UBE2D1), His-tag UBE2D9 (UBE2D1), His-tag UBE2D1 (UBE2D1 (UBE2D1), His-tag UBE2D1 (UBE2D1), His-tag UBE2D1 (UBE2D1 (UBE2D1), His-tag UBE2D1 (UBE2D1, His-tag	MDM2, GST-Tag (Human)	80751	20 μg
UBE2A, His-Tag UBE2C, His-Tag UBE2D2, His-Tag UBE2D2, His-Tag UBE2E3 (UBCH9), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC7), His-Tag UBE2K (UBC1), His-Tag UBE2C, GST-Tag UBE2O, GST-Tag UBE2D1, His-tag UBE2D1, His-tag UBE2D1, His-tag UBCH5b, His-Tag (Human) UBCH6 (UBE2E1), His-tag UBCH7, His-tag (E. coli-derived) UBCH7, His-tag (Sf9-derived) UBCH7, His-tag (SF9-derived) UBCH3 (UBE2N), His-tag UBCH3 (UBE2N), His-tag UBCH7, His-tag (SF9-derived) UBCH7, His-tag (SF9-derived) UBCH7, His-tag (SF9-derived) UBCH3 (UBE2N), His-tag UBCH13 (UBE2N), His-tag UBCH13 (UBCAN), His-tag UBCH13 (UBCAN), His-tag UBCH14 (UBCAN), His-tag UBCH5 (UBCAN), His-tag UBCH5 (UBCAN), His-tag UBCH6 (UBCAN), His-tag UBCH7, His-tag (UBCAN), His-tag UBCH7, His-tag (UBCAN), His-tag UBCH7, His-tag (UBCAN), His-tag UBCH7, His-tag (UBCAN), His-tag UBCAN, His-tag (UBCAN), His-tag UBCAN, His-tag (UBCAN), His-tag UBCAN,	UBE1 (UBA1), FLAG-tag	80301	100 μg
UBE2C, His-Tag UBE2D, His-Tag UBE2D, His-Tag UBE2E3 (UBCH9), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC1), His-Tag UBE2K (UBC1), His-Tag UBE2O, GST-Tag UBE2O, GST-Tag UBE2D, His-tag UbcH5a (UBE2D1), His-tag UbcH5b, His-Tag (Human) UbcH6 (UBE2E1), His-tag UbcH7, His-tag (E. coli-derived) UbcH7, His-tag (Sf9-derived) UbcH3 (UBE2N), His-tag UbcH13 (UBE2N), His-tag UbcH13 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH15 (UBE2N), His-tag UbcH16 (UBE2N), His-tag UbcH17, FLAG-tag UbcH18 (UBE2N), His-tag UbcH19 (UBE2N), His-tag UbcH2 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH4 (UBE2N), His-tag UbcH5 (UBE2D1), His-tag UbcH5 (UBC1), His-ta	UBE1, GST-Tag	100402	100 μg
UBE2D2, His-Tag UBE2E3 (UBCH9), His-Tag UBE2G1 (UBC7), His-Tag UBE2G1 (UBC7), His-Tag UBE2K (UBC1), His-Tag UBE2K (UBC1), His-Tag UBE2O, GST-Tag UBE2O, GST-Tag UbcH5a (UBE2D1), His-tag UbcH5b, His-Tag (Human) UbcH6 (UBE2E1), His-tag UbcH7, His-tag (E. coli-derived) UbcH7, His-tag (E. coli-derived) UbcH3 (UBE2N), His-tag UbcH13 (UBE2N), His-tag UbcH13 (UBE2N), His-tag SBJ18 UbcH3 (UBE2N), His-tag UbcH15 (Human) UbcH6 (SST-Tag (Human) UbcH15 (UBE2N), His-tag UbcH15 (UBE2N), His-tag UbcH16 (UBE2N), His-tag UbcH17, His-tag (Sf9-derived) UbcH18 (UBE2N), His-tag UbcH19 (UBE2N), His-tag UbcH2 (UBE2N), His-tag UbcH3 (UBE2N), His-tag UbcH4 (UBE2N), His-tag UbcH5 (UBE2N), His-tag UbcH5 (UBE2N), His-tag UbcH6 (UBE2N), His-tag UbcH5 (UBC2N), His-ta	UBE2A, His-Tag	79368	20 μg
UBE2E3 (UBCH9), His-Tag 79371 20 μg UBE2G1 (UBC7), His-Tag 79372 20 μg UBE2K (UBC1), His-Tag 79373 20 μg UBE2O, GST-Tag 79374 20 μg UbcH5a (UBE2D1), His-tag 80315 100 μg UbcH5b, His-Tag (Human) 80314 100 μg UbcH6 (UBE2E1), His-tag 80316 100 μg UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg C-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100379 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UBE2C, His-Tag	79369	20 μg
UBE2G1 (UBC7), His-Tag 79372 20 μg UBE2K (UBC1), His-Tag 79373 20 μg UBE2O, GST-Tag 79374 20 μg UbcH5a (UBE2D1), His-tag 80315 100 μg UbcH5b, His-Tag (Human) 80314 100 μg UbcH6 (UBE2E1), His-tag 80316 100 μg UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UBE2D2, His-Tag	79370	20 μg
UBE2K (UBC1), His-Tag UBE2O, GST-Tag UBE2O, GST-Tag UbcH5a (UBE2D1), His-tag UbcH5b, His-Tag (Human) UbcH6 (UBE2E1), His-tag UbcH7, His-tag (E. coli-derived) UbcH7, His-tag (Sf9-derived) UbcH13 (UBE2N), His-tag UbcH13 (UBE2N), His-tag CBL-B, GST-Tag (Human) C-CBL, GST-Tag (Human) XIAP, FLAG-tag SMURF1, FLAG-tag SMURF2, FLAG-tag SMURF2, FLAG-tag Cereblon/DDB1/Cul4A/Rbx1 Complex VHL/CUL2/ELOB/ELOC/RBX1 Complex Ubiquitin, His-Tag 79373 20 μg 80315 100 μg 80314 100 μg 80317 100 μg 80318 50 μg 80323 100 μg 80425 100 μg 80401 20 μg 80401 20 μg 80402 20 μg 80403 20 μg 80404	UBE2E3 (UBCH9), His-Tag	79371	20 μg
UBE2O, GST-Tag 79374 20 μg UbcH5a (UBE2D1), His-tag 80315 100 μg UbcH5b, His-Tag (Human) 80314 100 μg UbcH6 (UBE2E1), His-tag 80316 100 μg UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UBE2G1 (UBC7), His-Tag	79372	20 μg
UbcH5a (UBE2D1), His-tag 80315 100 μg UbcH5b, His-Tag (Human) 80314 100 μg UbcH6 (UBE2E1), His-tag 80316 100 μg UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UBE2K (UBC1), His-Tag	79373	20 μg
UbcH5b, His-Tag (Human) 80314 100 μg UbcH6 (UBE2E1), His-tag 80316 100 μg UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UBE2O, GST-Tag	79374	20 μg
UbcH6 (UBE2E1), His-tag80316100 μgUbcH7, His-tag (E. coli-derived)80317100 μgUbcH7, His-tag (Sf9-derived)8031850 μgUbcH13 (UBE2N), His-tag80323100 μgCBL-B, GST-Tag (Human)80415100 μgc-CBL, GST-Tag (Human)100370100 μgXIAP, FLAG-tag8040120 μgSMURF1, FLAG-tag8040220 μgSMURF2, FLAG-tag8040320 μgCereblon/DDB1/Cul4A/Rbx1 Complex10032910 μgVHL/CUL2/ELOB/ELOC/RBX1 Complex10037310 μgUbiquitin, His-Tag792932 mg	UbcH5a (UBE2D1), His-tag	80315	100 μg
UbcH7, His-tag (E. coli-derived) 80317 100 μg UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UbcH5b, His-Tag (Human)	80314	100 μg
UbcH7, His-tag (Sf9-derived) 80318 50 μg UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UbcH6 (UBE2E1), His-tag	80316	100 μg
UbcH13 (UBE2N), His-tag 80323 100 μg CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UbcH7, His-tag (E. coli-derived)	80317	100 μg
CBL-B, GST-Tag (Human) 80415 100 μg c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UbcH7, His-tag (Sf9-derived)	80318	50 μg
c-CBL, GST-Tag (Human) 100370 100 μg XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	UbcH13 (UBE2N), His-tag	80323	100 μg
XIAP, FLAG-tag 80401 20 μg SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	CBL-B, GST-Tag (Human)	80415	100 μg
SMURF1, FLAG-tag 80402 20 μg SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	c-CBL, GST-Tag (Human)	100370	100 μg
SMURF2, FLAG-tag 80403 20 μg Cereblon/DDB1/Cul4A/Rbx1 Complex 100329 10 μg VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 μg Ubiquitin, His-Tag 79293 2 mg	XIAP, FLAG-tag	80401	20 μg
Cereblon/DDB1/Cul4A/Rbx1 Complex10032910 μgVHL/CUL2/ELOB/ELOC/RBX1 Complex10037310 μgUbiquitin, His-Tag792932 mg	SMURF1, FLAG-tag	80402	20 μg
VHL/CUL2/ELOB/ELOC/RBX1 Complex 100373 10 µg Ubiquitin, His-Tag 79293 2 mg	SMURF2, FLAG-tag	80403	20 μg
Ubiquitin, His-Tag 79293 2 mg	· · · · · · · · · · · · · · · · · · ·	100329	
	VHL/CUL2/ELOB/ELOC/RBX1 Complex	100373	10 μg
Ubiquitin, His-Avi-Tag, Biotin Labeled 11236 50 μg			_
	Ubiquitin, His-Avi-Tag, Biotin Labeled	11236	50 μg

