Cereblon/DDB1/Cul4A/Rbx1 Complex

Cat. # UB330

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Background

Cereblon (CRBN) complex is an E3 Ligase that mediates ubiquitination and proteasomal degradation of target proteins. CRBN functions as a substrate adaptor, providing substrate specificity without possessing inherent enzymatic activity. It is linked to the scaffolding protein Cullin 4A (Cul4A) and its regulator, the RING-box protein (RBX1), via DNA damage-binding protein 1 (DDB1). The ligase activity of the complex is determined by the Cullin–RBX1 module, which catalyzes the transfer of ubiquitin from the RBX1-bound E2 enzyme to target substrates.

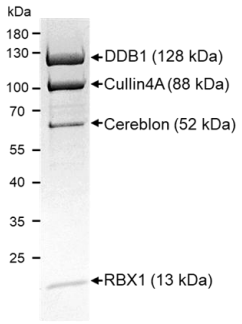
Application(s)

- Protein degradation
- PROTAC and Molecular Glue discovery
- Selectivity Profiling

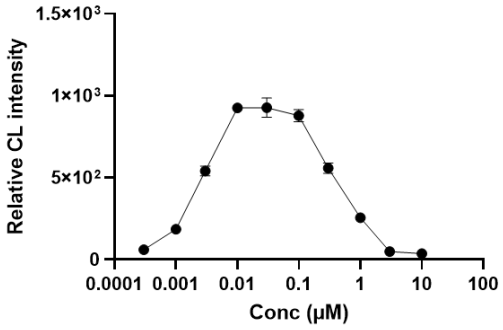
Product Specifications

Affinity Tag	None
Purity	≥ 90% estimated by SDS-PAGE
Molecular Weight	CRBN: 51 kDa, DDB1: 128 kDa, Cul4A: 88 kDa, Rbx1: 13 kDa
Quantity	10 µg, 50 µg
Species	Human. Genbank Accession No.: CRBN, NM_016302; DDB1, NM_001923; Cul4A, NM_003589; Rbx1, NM_014248
Expression System	HEK293
Physical State	Liquid
Buffer	40 mM Tris-HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 0.04% Tween-20, 20% glycerol
Stability & Storage	1 year at -80°C. Avoid repeated freeze/thaw cycles

Product QC



SDS-PAGE analysis of purified CRBN complex. Twenty µg of the protein was loaded on a 4-20% SDS-PPAGE gel and stained with Coomassie brilliant blue



In vitro ubiquitination assay to test the activity of the CRBN complex. In vitro ubiquitination reaction was performed in the presence of various doses of LC2, a VHL degrader of KRAS G12C. Ubiquitinated KRAS G12C was captured on the microtiter plate coated with TUBEs and detected using anti-KRAS antibody. Chemiluminescence intensities were plotted against PROTAC doses to evaluate the extent of ubiquitination.

References

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3. Gang, Lu., et al., Science. 2014; 343(6168): 305-309.
4. Zhu, Y.X., et al., Blood. 2011; 118: 4771-4779.