Cereblon/DDB1/Cul4A/Rbx1 Complex

Cat. # UB330

Background

Cereblon (CRBN) complex, is an E3 Ligase that mediates ubiquitination and proteasomal degradation of target proteins. CRBN acts as a substrate adaptor to bring substrate specificity without inherent enzymatic activity. CRBN is linked to scaffolding protein Cullin 4 (Cul4a) and its regulator ring box proteins (RBX1) via DNA binding protein 1 (DDB1). The ligase activity of the complex is determined by Cullin-RBX that catalyzes the transfer of ubiquitin from RBX bound E2 to target substrates.

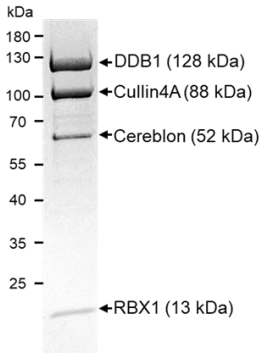
Applications

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

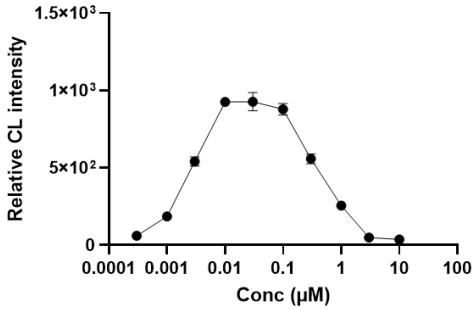
Product Information

Purity	≥ 90% by SDS-PAGE
Molecular Weight	CRBN: 51 kDa, DDB1: 128 kDa, Cul4A: 88 kDa, Rbx1: 13 kDa
Genbank Accession	CRBN, NM_016302; DDB1, NM_001923; Cul4A, NM_003589; Rbx1, NM_014248
Physical State	Liquid
Quantity	10 µg, 50 µg
Buffer	40 mM Tris-HCl, pH 8.0, 110 nM NaCl, 2.2 mM KCl, 0.04% Tween-20, 20% glycerol
Storage	-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

1) Gang, Lu., et al., Science. 2014; 343(6168): 305-309.

2) Zhu, Y.X., et al., Blood. 2011; 118: 4771-4779.