

## Background

The VHL and CRBN complexes are multi-subunit E3 ubiquitin ligases that mediate substrate-specific ubiquitination and proteasomal degradation. The VHL complex consists of VHL, Elongin B (ELOB), Elongin C (ELOC), Cullin-2 (CUL2), and RBX1. ELOB and ELOC form a heterodimer that binds to the BC-box motif present in SOCS- and VHL-box protein families, with VHL providing substrate specificity and linking to the CUL2–RBX1 scaffold via ELOC. Similarly, the CRBN complex includes Cereblon (CRBN) as the substrate adaptor, DDB1 as the linker, and the CUL4A–RBX1 scaffold. In both complexes, ubiquitin transfer is catalyzed by the Cullin–RBX1 module, enabling targeted protein degradation.

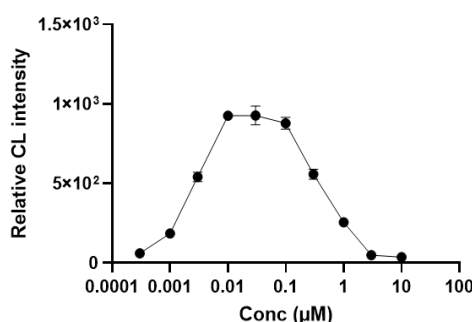
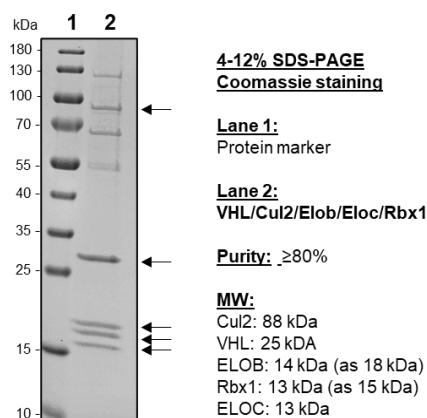
## Application(s)

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

## Product Specifications

<b>Affinity Tag</b>	N-terminal HIS tags on ELOC and Rbx1
<b>Purity</b>	≥ 80% estimated by SDS-PAGE
<b>Molecular Weight</b>	VHL, 25 kDa; CUL2, 88 kDa; ELOB, 14 kDa; ELOC, 13 kDa; Rbx1, 13 kDa
<b>Quantity</b>	10 µg, 50 µg
<b>Species</b>	Human. Genbank Accession No: VHL, NM_000551; Cul2, NM_003591; ELOB, NM_007108; Rbx1, NM_014248; ELOC, NM_005648
<b>Expression System</b>	HEK293
<b>Physical State</b>	Liquid
<b>Buffer</b>	40 mM Tris-HCL, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 20% glycerol, 2 mM DTT
<b>Stability &amp; Storage</b>	1 year at -80°C. Avoid repeated freeze/thaw cycles

## Product QC



**In vitro ubiquitination assay to test the activity of the VHL 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. Meyers M, et al., *ACS Chem Biol.* 2024;19(1):58-68.
2. Barankiewicz J, et al., *Cancers (Basel).* 2022;14(18):4492.
3. Gang, Lu., et al., *Science.* 2014; 343(6168): 305-309.
4. Zhu, Y.X., et al., *Blood.* 2011; 118: 4771-4779.

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