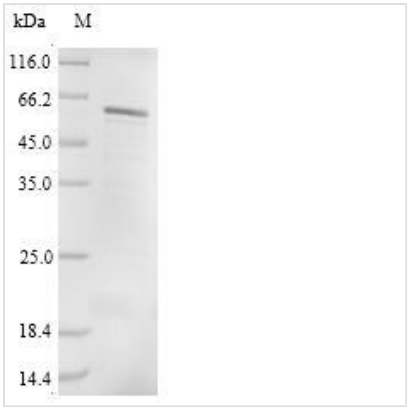
Recombinant Human Protein cereblon (CRBN)

Product Code	CSB-BP842761HU
Relevance	Substrate recognition component of a DCX (DDB1-CUL4-X-box) E3 protein ligase complex that mediates the ubiquitination and subsequent proteasomal degradation of target proteins, such as MEIS2. Normal degradation of key regulatory proteins is required for normal limb outgrowth and expression of the fibroblast growth factor FGF8. May play a role in memory and learning by regulating the assembly and neuronal surface expression of large-conductance calcium-activated potassium channels in brain regions involved in memory and learning via its interaction with KCNT1. Binding of pomalidomide and other thalidomide-related drugs changes the substrate specificity of the human protein, leading to decreased degradation of MEIS2 and other target proteins and increased degradation of MYC, IRF4, IKZF1 and IKZF3.
Abbreviation	Recombinant Human CRBN protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q96SW2
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MAGEGDQQDAAHNMGNHLPLLPAESEEEDEMEVEDQDSKEAKKPNIINFDTS LPTSHTYLGADMEEFHGRTLHDDDSCQVIPVLPQVMMILIPGQTLPLQLFHPQE VSMVRNLIQKDRTFAVLAYSNVQEREAQFGTTAEIYAYREEQDFGIEIVKVKAIG RQRFKVLELRTQSDGIQQAKVQILPECVLPSTMSAVQLESLNKCQIFPSKPVSR EDQCSYKWWQKYQKRKFHCANLTSWPRWLYSLYDAETLMDRIKKQLREWDE NLKDDSLPSNPIDFSYRVAACLPIDDVLRIQLLKIGSAIQRLRCELDIMNKCTSLC CKQCQETEITTKNEIFSLSLCGPMAAYVNPHGYVHETLTVYKACNLNLIGRPST EHSWFPGYAWTVAQCKICASHIGWKFTATKKDMSPQKFWGLTRSALLPTIPDT EDEISPDKVILCL
Research Area	Neuroscience
Source	Baculovirus
Target Names	CRBN
Protein Names	Recommended name: Protein cereblon
Expression Region	1-442aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 9xHis-tagged
Mol. Weight	52.5 kDa

Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The gene fragment corresponding to the 1-442aa of the human CRBN protein was synthesized, with appropriate restriction sites suitable for in-frame cloning into an expression vector, with C-terminal 9xHis tag. The Baculovirus was transformed with the expression vector, and the clone was expressed upon certain induction. After the induced cell centrifugation, the recombinant protein was purified from the cell extract and presented as C-terminal 9xHis-tagged fusion. This recombinant human CRBN protein's purity is greater than 85% assayed by SDS-PAGE. The CRBN protein ran to a band of about 56 kDa molecular weight on the gel, indicating a glycosylated form of the protein.

Cereblon (CRBN) is a common direct target of thalidomide and related compounds and works as a Cullin Ring 4 E3 ubiquitin ligase (CRL4) with DDB1, CUL4, and ROC1. CRBN the molecular target of lenalidomide and pomalidomide, is a substrate receptor of the cullin ring E 3 ubiquitin ligase complex, CRL 4 CRBN. In early reports, Researchers identifed that a novel cereblon modulator recruits GSPT1 to the CRL4-CRBN ubiquitin ligase. The substrate specificity of CRL4CRBN is modulated by thalidomide-related compounds. Ablation ofCRBNinduces loss of type I collagen and SCH in mouse skin by fibroblast senescence via the p38 MAPK pathway. The CRBN, CUL4A and DDB1 expression predicts the response to immunomodulatory drugs and survival of multiple myeloma patients. Cereblon modulator CC-885 inducesCRBN-dependent ubiquitination and degradation of CDK4 in multiple myeloma.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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