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CRBN Antibody
Catalog # ASC11899

Specification

CRBN Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q96SW2
Other Accession	NP_057386, 39545580
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 49 kDa** **Observed: 54 kDa KDa**
Application Notes	**CRBN antibody can be used for detection of CRBN by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

CRBN Antibody - Additional Information

Gene ID **51185**

Target/Specificity
CRBN; CRBN antibody is human, mouse and rat reactive. At least two isoforms of CRBN are known to exist; this antibody will detect both isoforms.

Reconstitution & Storage
CRBN antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
CRBN Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CRBN Antibody - Protein Information

Name CRBN

Function
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 or ILF2 (PubMed:33009960). Normal degradation of key regulatory proteins is required for normal limb outgrowth and expression of the fibroblast growth factor FGF8 (PubMed:20223979, PubMed:24328678, PubMed:25043012, PubMed:25108355). Maintains

presynaptic glutamate release and consequently cognitive functions, such as memory and learning, by negatively regulating large-conductance calcium-activated potassium (BK) channels in excitatory neurons (PubMed:18414909, PubMed:29530986). Likely to function by regulating the assembly and neuronal surface expression of BK channels via its interaction with KCNT1 (PubMed:18414909). May also be involved in regulating anxiety-like behaviors via a BK channel-independent mechanism (By similarity). Plays a negative role in TLR4 signaling by interacting with TRAF6 and ECSIT, leading to inhibition of ECSIT ubiquitination, an important step of the signaling (PubMed:31620128).

Cellular Location
Cytoplasm. Nucleus. Membrane; Peripheral membrane protein

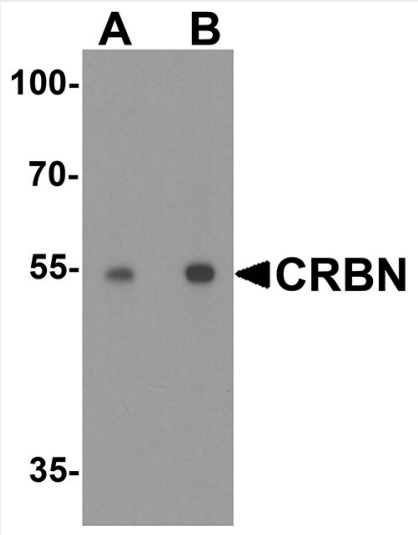
Tissue Location
Widely expressed. Highly expressed in brain.

CRBN Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

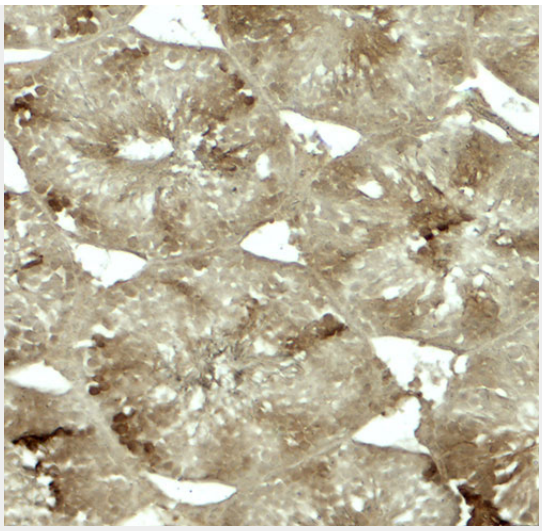
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CRBN Antibody - Images

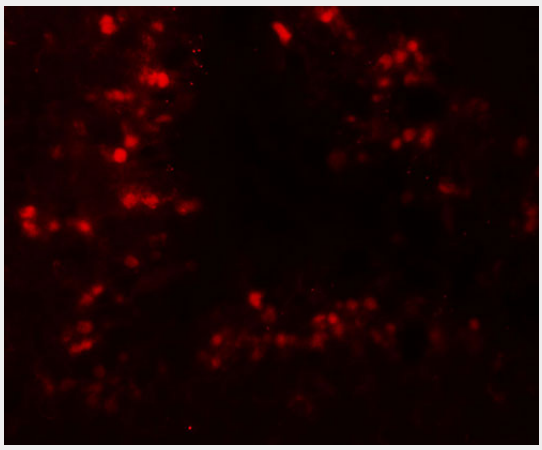


Western blot analysis of CRBN in human testis tissue lysate with CRBN antibody at (A) 0.5 and (B) 1 µg/ml.

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Immunohistochemistry of CRBN in rat testis tissue with CRBN antibody at 5 µg/mL.



Immunofluorescence of CRBN in rat testis tissue with CRBN antibody at 20 µg/mL.

CRBN Antibody - Background

CRBN, a member of the Lon protease protein family, plays a role in brain development (1). It is a component of the DCX (DDB1-CUL4-X-box) E3 protein ligase complex, a complex that mediates the ubiquitination and subsequent proteasomal degradation of target proteins and is required for limb outgrowth and expression of the fibroblast growth factor FGF8 (2). CRBN is thought to regulate 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. It is widely expressed and highly expressed in brain (3,4).

CRBN Antibody - References

Xin W, Xiaohua N, Peilin C, et al. Primary function analysis of human mental retardation related gene CRBN. Mol. Biol. Rep. 2008; 35:251-6.
Gandhi AK, Kang J, Havens CG, et al. Immunomodulatory agents lenalidomide and pomalidomide co-stimulate T cells by inducing degradation of T cell repressors Ikaros and Aiolos via modulation of the E3 ubiquitin ligase complex CRL4(CRBN). Br. J. Haematol. 2014; 164:811-21.
Liu J, Ye J, Zou X, et al. CRL4A (CRBN) E3 ubiquitin ligase restricts BK channel activity and prevents epileptogenesis. Nat. Commun. 2014; 5:3924.
Heintel D, Rocci A, Ludwig H, et al. High expression of cereblon (CRBN) is associated with improved clinical response in patients with multiple myeloma treated with lenalidomide and dexamethasone. Br. J. Haematol. 2013; 161:695-700.