10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CRBN Rabbit pAb

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Catalog # AP54605

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q96SW2
Reactivity	Mouse, Rat
Predicted	Human, Dog, Pig, Horse, Rabbit, Zebrafish, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	50546
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CRBN
Epitope Specificity	210-288/442
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Nucleus. Membrane; Peripheral membrane protein
SIMILARITY	Belongs to the CRBN family.
SUBUNIT	Interacts with KCNT1 (By similarity). Component of a DCX (DDB1-CUL4-X-box) protein ligase complex, at least composed of CRBN, CUL4A, DDB1 and RBX1.
Post-translational modifications	Ubiquitinated, ubiquitination is mediated by its own DCX protein ligase complex.
DISEASE	Defects in CRBN are the cause of mental retardation autosomal recessive type 2A (MRT2A) [MIM:607417]. MRT2A patients display mild mental retardation with a standard IQ ranged from 50 to 70. IQ scores are lower in males than females. Developmental milestones are mildly delayed. There are no dysmorphic or autistic features. Non-syndromic mental retardation patients do not manifest other clinical signs.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	CRBN is a 442 amino acid protein which is highly concentrated in human brain tissue. CRBN functions are thought to be related to energy metabolism, learning and memory. Localized to the cytoplasm, CRBN acts as a protease in mitochondria and is thought to regulate the assembly of KCNT1, as well as the surface expression of KCNT1 in brain regions known to affect memory and learning, such as the hippocampus. The gene encoding CRBN belongs to a family of ATP-dependent lon proteases that play a role in membrane trafficking and proteolysis. Defects in the CRBN gene are associated with mild mental retardation.

Additional Information

Gene ID	51185

Other Names	Protein cereblon, CRBN
Target/Specificity	Widely expressed. Highly expressed in brain.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

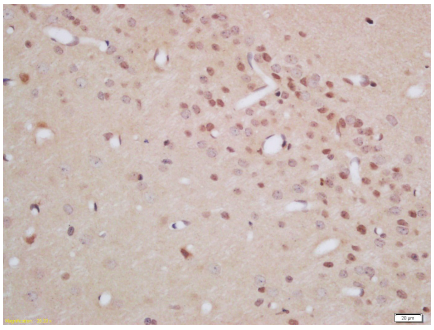
Protein Information

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, ILF2 or GLUL (PubMed:26990986, 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.

Background

CRBN is a 442 amino acid protein which is highly concentrated in human brain tissue. CRBN functions are thought to be related to energy metabolism, learning and memory. Localized to the cytoplasm, CRBN acts as a protease in mitochondria and is thought to regulate the assembly of KCNT1, as well as the surface expression of KCNT1 in brain regions known to affect memory and learning, such as the hippocampus. The gene encoding CRBN belongs to a family of ATP-dependent lon proteases that play a role in membrane trafficking and proteolysis. Defects in the CRBN gene are associated with mild mental retardation.

Images



Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-CRBN Polyclonal Antibody, Unconjugated(AP54605) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and