

**CBLN1 / Cerebellin 1 Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS11409****Specification**

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**CBLN1 / Cerebellin 1 Antibody - Product Information**

Application	WB, IHC-P
Primary Accession	<a href="#">P23435</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A

**CBLN1 / Cerebellin 1 Antibody - Additional Information****Gene ID** 869**Other Names**

Cerebellin-1, Precerebellin, Cerebellin, CER, [des-Ser1]-cerebellin, CBLN1

**Target/Specificity**

15 amino acid peptide from the middle of human precerebellin

**Reconstitution & Storage**

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

**Precautions**

CBLN1 / Cerebellin 1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**CBLN1 / Cerebellin 1 Antibody - Protein Information****Name** CBLN1**Function**

Required for synapse integrity and synaptic plasticity. During cerebellar synapse formation, essential for the matching and maintenance of pre- and post-synaptic elements at parallel fiber-Purkinje cell synapses, the establishment of the proper pattern of climbing fiber-Purkinje cell innervation, and induction of long-term depression at parallel fiber-Purkinje cell synapses. Plays a role as a synaptic organizer that acts bidirectionally on both pre- and post-synaptic components. On the one hand induces accumulation of synaptic vesicles in the pre-synaptic part by binding with NRXN1 and in other hand induces clustering of GRID2 and its associated proteins at the post-synaptic site through association of GRID2. NRXN1-CBLN1-GRID2 complex directly induces parallel fiber protrusions that encapsulate spines of Purkinje cells leading to accumulation of GRID2 and synaptic vesicles. Required for CBLN3 export from the endoplasmic reticulum and secretion (By similarity). NRXN1-CBLN1-GRID2 complex mediates the D- Serine-dependent long

term depression signals and AMPA receptor endocytosis (PubMed:<a href="http://www.uniprot.org/citations/27418511" target="\_blank">27418511</a>). Essential for long-term maintenance but not establishment of excitatory synapses (By similarity). Inhibits the formation and function of inhibitory GABAergic synapses in cerebellar Purkinje cells (By similarity).

#### Cellular Location

Secreted {ECO:0000250|UniProtKB:Q9R171}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q9R171}

#### Tissue Location

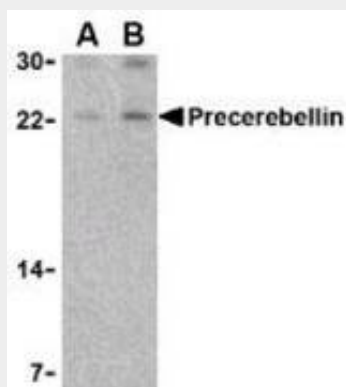
In the Purkinje cells postsynaptic structures. In the cerebellum, cerebellin is much less abundant than [des-Ser1]- cerebellin

### CBLN1 / Cerebellin 1 Antibody - Protocols

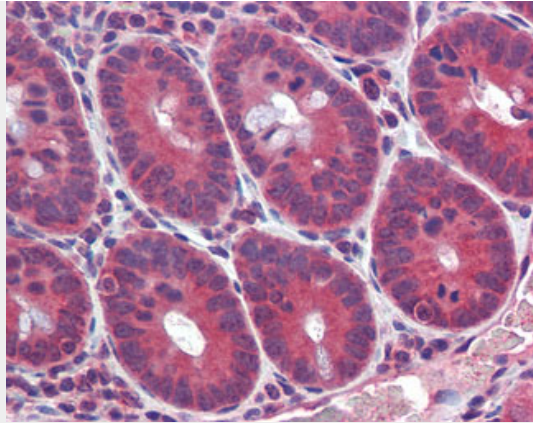
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

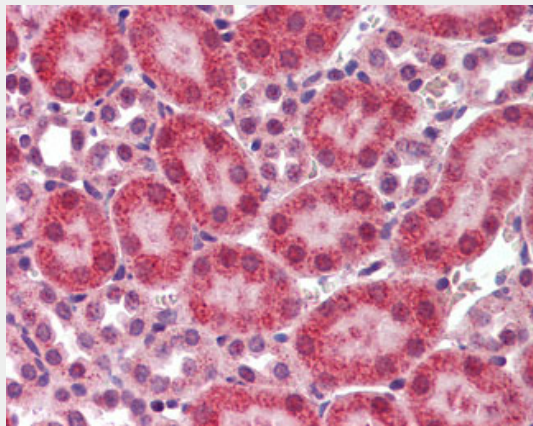
### CBLN1 / Cerebellin 1 Antibody - Images



Western blot of precerebellin in mouse cerebellum lysate with ALS11409 at (A) 2 and (B) 4 ug/ml.



Anti-CBLN1 / Precerebellin antibody IHC of mouse small intestine.



Anti-CBLN1 / Precerebellin antibody IHC of mouse kidney.

### **CBLN1 / Cerebellin 1 Antibody - Background**

Required for synapse integrity and synaptic plasticity. During cerebellar synapse formation, essential for the formation and maintenance of parallel fiber and Purkinje cell synapses. When parallel fibers make contact with Purkinje spines, CBLN1 interaction with GRID2 triggers the recruitment of NRXN1 and secretory vesicles to the sites of contact. NRXN1-CBLN1-GRID2 signaling induces presynaptic morphological changes, which may further accumulate pre- and postsynaptic components to promote bidirectional maturation of parallel fiber - Purkinje cell functionally active synapses by a positive feedback mechanism. Required for CBLN3 export from the endoplasmic reticulum and secretion (By similarity).

### **CBLN1 / Cerebellin 1 Antibody - References**

Urade Y.,et al.Proc. Natl. Acad. Sci. U.S.A. 88:1069-1073(1991).  
Ota T.,et al.Nat. Genet. 36:40-45(2004).  
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.  
Yiangou Y.,et al.J. Neurochem. 53:886-889(1989).