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CBLN1 Rabbit pAb

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Catalog # AP54632

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P23435
Reactivity	Rat
Predicted	Pig, Human, Mouse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21097
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CBLN1
Epitope Specificity	51-150/193
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	Secreted. Membrane. Cell junction, synapse.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Cerebellin (CER), which was originally isolated from rat cerebellum, is a hexadecapeptide derived from a larger precursor Cerebellin 1, also designated precerebellin 1 or Cbln1. Four propeptides, Cerebellin 1, Cerebellin 2 (Cbln2), Cerebellin 3 (Cbln3), and Cerebellin 4 (Cbln4), comprise the precerebellin subfamily within the C1q protein family. Cerebellin family members act as transneuronal regulators of synapse development and synaptic plasticity in various brain regions. CER and it metabolite des-Ser1-cerebellin are also expressed in several extra-cerebellar tissues, including adrenal gland. Cerebellin 1, 2 and 3 assemble into homomeric and heteromeric complexes, thereby influencing each other's degradation and secretion. Cerebellin 3 is not able to form homomeric complexes, and can only be secreted upon forming a heteromeric complex with Cerebellin 1. Decreased concentrations of CER has been found in the brain of patients with olivopontocerebellar atrophy (OPCA) and Shy-Drager syndrome, suggesting a role for CER in the pathology of these diseases.

Additional Information

Gene ID	869
Other Names	Cerebellin-1, Precerebellin, Cerebellin, CER, [des-Ser1]-cerebellin, CBLN1
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.

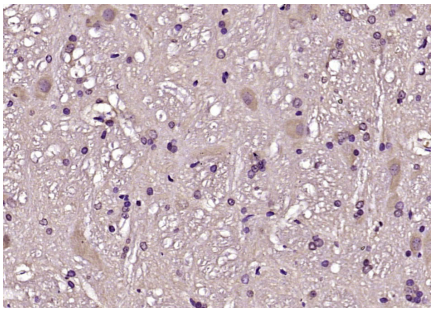
Protein Information

Name	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:27418511). 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

Background

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Images



Paraformaldehyde-fixed, paraffin embedded (rat cerebellum); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CBLN1) Polyclonal Antibody, Unconjugated (AP54632) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.