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CLSTN1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54576

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	O94985
Reactivity	Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	109793
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Calsyntenin 1
Epitope Specificity	501-600/981
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	Endoplasmic reticulum membrane. Golgi apparatus membrane. Cell projection. Cell junction > synapse > postsynaptic cell membrane. Nucleus. Neurite tips. Localized in the postsynaptic membrane of both excitatory and inhibitory synapses (By similarity). The AlcICD fragment is translocated to the nucleus upon interaction with APBB1.
SIMILARITY	Contains 2 cadherin domains.
SUBUNIT	Directly interacts with APBA2. Forms a tripartite complex with APBA2 and APP. The CTF1 chain interacts with PSEN1. The intracellular fragment AlcICD interacts with APBB1; this interaction stabilizes AlcICD metabolism. Interacts with KLC1 and APBB1
Post-translational modifications	Proteolytically processed under normal cellular conditions. A primary zeta-cleavage generates a large extracellular (soluble) N-terminal domain (sAlc) and a short C-terminal transmembrane fragment (CTF1). A secondary cleavage catalyzed by presenilin gamma-secretase within the transmembrane domain releases the beta-Alc-alpha chain in the extracellular milieu and produces an intracellular fragment (AlcICD). This processing is strongly suppressed in the tripartite complex formed with APBA2 and APP, which seems to prevent the association with PSEN1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Members of the calsyntenin protein family are localized to the post-synaptic membrane of exicitatory central nervous system (CNS) synapses. Calsyntenin-1, also known as CSTN1, PIK3CD, Alzheimer-related cadherin-like protein, non-classical cadherin XB31alpha, KIAA0911, ALC-ALPHA, alcalpha1, alcalpha2 or FLJ32258, is a 981 amino acid single-pass type I membrane protein that localizes to the membrane of endoplasmic reticulum, Golgi apparatus, cell projections and postsynaptic cells. Expressed in brain, calsyntenin-1 is also found at lower levels in placenta, skeletal muscle, heart and kidney. Calsyntenin-1 binds synaptic Ca2+ with its cytoplasmic domain and plays a role in extracellular proteolysis. Calsyntenin-1 is also known to form a complex with X11 Beta and APP to suppress the metabolic cleavage of

APP, and docks vesicular cargo to KLC1. Calsyntenin-1 may be related to the development or progression of Alzheimer's disease, and two calsyntenin-1 isoforms are produced as a result of alternative splicing events.

Additional Information

Gene ID	22883
Other Names	Calsyntenin-1, Alcadein-alpha, Alc-alpha, Alzheimer-related cadherin-like protein, Non-classical cadherin XB31alpha, Soluble Alc-alpha, SAlc-alpha, CTF1-alpha, C-terminal fragment 1-alpha, CLSTN1, CS1, KIAA0911
Target/Specificity	Expressed in the brain and, a lower level, in the heart, skeletal muscle, kidney and placenta. Accumulates in dystrophic neurites around the amyloid core of Alzheimer disease senile plaques (at protein level).
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	CLSTN1 (HGNC:17447)
Function	Postsynaptic adhesion molecule that binds to presynaptic neurexins to mediate both excitatory and inhibitory synapse formation (By similarity). Promotes synapse development by acting as a cell adhesion molecule at the postsynaptic membrane, which associates with neurexin-alpha at the presynaptic membrane (By similarity). Also functions as a cargo in axonal anterograde transport by acting as a molecular adapter that promotes KLC1 association with vesicles (PubMed:21385839). Complex formation with APBA2 and APP, stabilizes APP metabolism and enhances APBA2-mediated suppression of beta-APP40 secretion, due to the retardation of intracellular APP maturation (PubMed:12972431).
Cellular Location	Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q9EPL2}; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Golgi apparatus membrane; Single-pass type I membrane protein. Cell projection, neuron projection. Note=Localized in the postsynaptic membrane of both excitatory and inhibitory synapses {ECO:0000250|UniProtKB:Q9EPL2}
Tissue Location	Expressed in the brain and, a lower level, in the heart, skeletal muscle, kidney and placenta. Accumulates in dystrophic neurites around the amyloid core of Alzheimer disease senile plaques (at protein level).