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

IQSEC2 Rabbit pAb

Catalog # AP98219

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q5JU85
Other Accession	Q5JU85
Reactivity	Mouse
Predicted	Rat, Pig, Human, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	162784
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human IQSEC2
Epitope Specificity	851-950/1478
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the BRAG family. Contains 1 IQ domain. Contains 1 PH domain. Contains 1 SEC7 domain.
DISEASE	Defects in IQSEC2 are the cause of mental retardation X-linked type 1 (MRX1) [MIM:309530]. Mental retardation is characterized by significantly below average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. In contrast to syndromic or specific X-linked mental retardation which also present with associated physical, neurological and/or psychiatric manifestations, intellectual deficiency is the only primary symptom of non-syndromic X-linked mental retardation.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	IQSEC2 is a 1,478 amino acid protein that belongs to the BRAG family and contains one IQ domain, one PH domain and a SEC7 domain. Localizing to the cytoplasm, IQSEC2 is expressed in brain, kidney and small intestine, with weaker levels of expression in placenta, pancreas, ovary, prostate and liver. IQSEC2 is a component of the postsynaptic density at excitatory synapses, and interacts with ARF family members as a guanine nucleotide exchange factor. Through the activation of ARF substrates, IQSEC2 may play a crucial role in cytoskeletal and synaptic organization. The gene encoding IQSEC2 maps to the human X chromosome. Defects to the IQSEC2 gene have been linked to mental retardation X-linked type 1 (MRX1), a condition characterized by decreased intellectual function. IQSEC2 exists as three isoforms due to alternative splicing events.

Additional Information

Gene ID	23096

Other Names	BRAG1; IQ-ArfGEF; MRX1; MRX18; MRX78; XLID1; IQEC2_HUMAN; IQSEC2; KIAA0522; IQ motif and Sec7 domain ArfGEF 2; mental retardation, X-linked 1 (non-dysmorphic); mental retardation, X-linked 78; mental retardation, X-linked 18; IQ motif and Sec7 domain 2; brefeldin A resistant Arf-guanine nucleotide exchange factor 1
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	IQSEC2 (HGNC:29059)
Function	Is a guanine nucleotide exchange factor (GEF) for small GTPases of the ARF family, promoting activation of specific ARFs through exchange of GDP for GTP (PubMed:26793055, PubMed:37787765). In vitro, it has GEF activity towards ARF1 and ARF6 (PubMed:30842726, PubMed:37787765, PubMed:38200111). Is involved in the regulation of synaptic transmission and plasticity, controlling trafficking and removal of AMPA receptors GRIA2/GLUA2 and GRIA3/GLUA3 at synapses (PubMed:27009485, PubMed:30842726). Additionally, it may regulate the assembly of the post-synaptic density in a Ca(2+)-dependent manner, operating independently of its GEF activity (PubMed:41123449).
Cellular Location	Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q5DU25}. Postsynaptic density
Tissue Location	Widely expressed. [Isoform 3]: Predominantly expressed in non-neural tissues.

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