

IQSEC2 Rabbit pAb

Catalog # AP98219

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q5JU85
Other Accession	Q5JU85
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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