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Synaptopodin 2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP59079

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q9UMS6
Reactivity	Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	117514
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Synaptopodin 2
Epitope Specificity	601-700/1093
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SUBCELLULAR LOCATION	Nucleus. Cytoplasm. Shuttles between the nucleus and the cytoplasm in a differentiation-dependent and stress-induced fashion. Localizes to the Z-disk in mature striated muscle. The nuclear export is XPO1-dependent (By similarity). Localized in a fiber-like pattern. partly overlapping with filamentous actin.
SIMILARITY	Belongs to the synaptopodin family. Contains 1 PDZ (DHR) domain.
DISEASE	Down-regulated in muscle cell lines derived from patients with Duchenne muscular dystrophy (DMD).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	SYNPO2 (Synaptopodin 2) is a Protein Coding gene. Diseases associated with SYNPO2 include Duchenne Muscular Dystrophy and Myopathy, Myofibrillar, 2. GO annotations related to this gene include actin binding and muscle alpha-actinin binding. An important paralog of this gene is SYNPO2L.

Additional Information

Gene ID	171024
Other Names	Synaptopodin-2, Genethonin-2, Myopodin, SYNPO2
Target/Specificity	Skeletal muscle-specific.
Dilution	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	SYNPO2
Function	Has an actin-binding and actin-bundling activity. Can induce the formation of F-actin networks in an isoform-specific manner (PubMed:23225103, PubMed:24005909). At the sarcomeric Z lines is proposed to act as adapter protein that links nascent myofibers to the sarcolemma via ZYX and may play a role in early assembly and stabilization of the Z lines. Involved in autophagosome formation. May play a role in chaperone-assisted selective autophagy (CASA) involved in Z lines maintenance in striated muscle under mechanical tension; may link the client-processing CASA chaperone machinery to a membrane- tethering and fusion complex providing autophagosome membranes (By similarity). Involved in regulation of cell migration (PubMed:22915763, PubMed:25883213). May be a tumor suppressor (PubMed:16885336).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q91YE8}. Cytoplasm {ECO:0000250|UniProtKB:Q91YE8}. Cytoplasm, cytoskeleton. Cytoplasm, myofibril, sarcomere, Z line. Cell junction, focal adhesion. Note=Shuttles between the nucleus and the cytoplasm in a differentiation-dependent and stress-induced fashion. In undifferentiated myoblasts strongly expressed in the nucleus, after induction of myotube differentiation is located to both nucleus and cytoplasm along acting filaments, and in differentiated myotubes is located at the Z lines. Upon stress redistributes from cytoplasm of myoblasts and myotubes to the nucleus. Nuclear import is KPNA2-dependent and promoted by phosphorylation by PKA and/or CaMK2, and inhibition of calcineurin. The nuclear export is XPO1-dependent (By similarity). Localized in a fiber-like pattern, partly overlapping with filamentous actin (PubMed:18371299). {ECO:0000250|UniProtKB:Q91YE8, ECO:0000269|PubMed:18371299} [Isoform 2]: Cytoplasm, cytoskeleton. Note=Localizes to induced actin bundles with punctuate staining. [Isoform 4]: Cytoplasm, cytoskeleton. Note=Localizes to induced actin bundles with punctuate staining.
Tissue Location	Expressed in heart muscle. Isoform 5 is specifically expressed in skeletal muscle