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Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide

Synthetic peptide
Catalog # BP6118a

Specification

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Product Information

Primary Accession	P54257
Other Accession	HAP1_HUMAN

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Additional Information

Gene ID 9001

Other Names
Huntingtin-associated protein 1, HAP-1, Neuroan 1, HAP1, HAP2, HLP1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP6118a was selected from the C-term region of human HAP1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Protein Information

Name HAP1

Synonyms HAP2, HLP1

Function
Originally identified as neuronal protein that specifically associates with HTT/huntingtin and the binding is enhanced by an expanded polyglutamine repeat within HTT possibly affecting HAP1 interaction properties. Both HTT and HAP1 are involved in intracellular trafficking and HAP1 is proposed to link HTT to motor proteins and/or transport cargos. Seems to play a role in vesicular transport within neurons and axons such as from early endosomes to late endocytic compartments and to promote neurite outgrowth. The vesicular transport function via association with microtubule-dependent transporters can be attenuated by association with mutant HTT. Involved in the axonal transport of BDNF and its activity-dependent secretion; the function seems to involve

HTT, DCTN1 and a complex with SORT1. Involved in APP trafficking and seems to facilitate APP anterograde transport and membrane insertion thereby possibly reducing processing into amyloid beta. Involved in delivery of gamma-aminobutyric acid (GABA(A)) receptors to synapses; the function is dependent on kinesin motor protein KIF5 and is disrupted by HTT with expanded polyglutamine repeat. Involved in regulation of autophagosome motility by promoting efficient retrograde axonal transport. Seems to be involved in regulation of membrane receptor recycling and degradation, and respective signal transduction, including GABA(A) receptors, tyrosine kinase receptors, EGFR, IP3 receptor and androgen receptor. Among others suggested to be involved in control of feeding behavior (involving hypothalamic GABA(A) receptors), cerebellar and brainstem development (involving AHI1 and NTRK1/TrkA), postnatal neurogenesis (involving hypothalamic NTRK2/TrkB), and ITPR1/InsP3R1-mediated Ca(2+) release (involving HTT and possibly the effect of mutant HTT). Via association with DCTN1/dynactin p150-glued and HTT/huntingtin involved in cytoplasmic retention of REST in neurons. May be involved in ciliogenesis. Involved in regulation of exocytosis. Seems to be involved in formation of cytoplasmic inclusion bodies (STBs). In case of anomalous expression of TBP, can sequester a subset of TBP into STBs; sequestration is enhanced by an expanded polyglutamine repeat within TBP. HAP1-containing STBs have been proposed to play a protective role against neurodegeneration in Huntigton disease (HD) and spinocerebellar ataxia 17 (SCA17).

Cellular Location
Cytoplasm. Cell projection, axon. Presynapse {ECO:0000250|UniProtKB:P54256}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P54256}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:P54256}. Cell projection, dendrite {ECO:0000250|UniProtKB:P54256}. Lysosome {ECO:0000250|UniProtKB:P54256}. Endoplasmic reticulum {ECO:0000250|UniProtKB:P54256}. Mitochondrion. Nucleus {ECO:0000250|UniProtKB:P54256} Cytoplasmic vesicle, autophagosome {ECO:0000250|UniProtKB:O35668} Early endosome {ECO:0000250|UniProtKB:P54256}. Cell projection, growth cone {ECO:0000250|UniProtKB:P54256}. Cell projection, neuron projection {ECO:0000250|UniProtKB:P54256}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle {ECO:0000250|UniProtKB:P54256}. Note=Localizes to large nonmembrane-bound cytoplasmic bodies found in various types of neurons, called stigmoid bodies (STBs). Localization to neuronal processes and neurite tips is decreased by YWHAZ. In the nucleus localizes to nuclear rods. {ECO:0000250|UniProtKB:P54256}

Tissue Location
Predominantly expressed in brain. Selectively expressed in neurons

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Images

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - Background

Huntington's disease is caused by the expansion of a glutamine repeat in the protein huntingtin. This glutamate repeat expansion disrupts normal protein-protein interactions with huntingtin. Human HAP1 (huntintin-associated protein) is a 75 kDa protein specifically expressed in human brain and binds more tightly to mutant huntingtin with the expanded glutamine repeat than to wild type huntingtin. HAP1 expression in Huntington's disease brains is reduced concomitant with decreased expression of huntingtin.

Huntingtin Associated Protein 1 (HAP1) antibody Blocking peptide - References

Ota, T., et al., Nat. Genet. 36(1):40-45 (2004).Li, S.H., et al., J. Biol. Chem. 273(30):19220-19227 (1998).Li, X.J., et al., Nature 378(6555):398-402 (1995).Nasir, J., et al., Gene 254 (1-2), 181-187 (2000).