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

CACNA1A Blocking Peptide (Center)

Synthetic peptide
Catalog # BP21701c

Specification

CACNA1A Blocking Peptide (Center) - Product Information

Primary Accession O00555

CACNA1A Blocking Peptide (Center) - Additional Information

Gene ID 773

Other Names
Voltage-dependent P/Q-type calcium channel subunit alpha-1A, Brain calcium channel I, BI, Calcium channel, L type, alpha-1 polypeptide isoform 4, Voltage-gated calcium channel subunit alpha Cav21, CACNA1A, CACH4, CACN3, CACNL1A4

Target/Specificity
The synthetic peptide sequence is selected from aa 918-932 of HUMAN CACNA1A

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.

CACNA1A Blocking Peptide (Center) - Protein Information

Name CACNA1A (HGNC:1388)

Synonyms CACH4, CACN3, CACNL1A4

Function
Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. The isoform alpha-1A gives rise to P and/or Q- type calcium currents. P/Q-type calcium channels belong to the 'high- voltage activated' (HVA) group and are specifically blocked by the spider omega-agatoxin-IVA (AC P54282) (By similarity). They are however insensitive to dihydropyridines (DHP).

Cellular Location
Cell membrane; Multi-pass membrane protein

Tissue Location
Brain specific; mainly found in cerebellum, cerebral cortex, thalamus and hypothalamus. Expressed in the small cell lung carcinoma cell line SCC-9. No expression in heart, kidney, liver or muscle. Purkinje cells contain predominantly P-type VSCC, the Q-type being a prominent calcium current in cerebellar granule cells

CACNA1A Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

CACNA1A Blocking Peptide (Center) - Images

CACNA1A Blocking Peptide (Center) - Background

Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. The isoform alpha-1A gives rise to P and/or Q-type calcium currents. P/Q-type calcium channels belong to the 'high-voltage activated' (HVA) group and are blocked by the funnel toxin (Ftx) and by the omega-agatoxin- IVA (omega-Aga-IVA). They are however insensitive to dihydropyridines (DHP), and omega-conotoxin-GVIA (omega-CTx-GVIA).

CACNA1A Blocking Peptide (Center) - References

Hans M.,et al.Biophys. J. 76:1384-1400(1999).
Ophoff R.A.,et al.Cell 87:543-552(1996).
Zhuchenko O.,et al.Nat. Genet. 15:62-69(1997).
Toru S.,et al.J. Biol. Chem. 275:10893-10898(2000).
Grimwood J.,et al.Nature 428:529-535(2004).