



## Rat CACNA1A peptide (DAG-P1417)

This product is for research use only and is not intended for diagnostic use.

### PRODUCT INFORMATION

#### Antigen Description

Voltage-dependent calcium channels 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, and gene expression. Calcium channels are multisubunit complexes composed of alpha-1, beta, alpha-2/delta, and gamma subunits. The channel activity is directed by the pore-forming alpha-1 subunit, whereas, the others act as auxiliary subunits regulating this activity. The distinctive properties of the calcium channel types are related primarily to the expression of a variety of alpha-1 isoforms, alpha-1A, B, C, D, E, and S. This gene encodes the alpha-1A subunit, which is predominantly expressed in neuronal tissue. Mutations in this gene are associated with 2 neurologic disorders, familial hemiplegic migraine and episodic ataxia 2. This gene also exhibits polymorphic variation due to (CAG)n-repeats. Multiple transcript variants encoding different isoforms have been found for this gene. In one set of transcript variants, the (CAG)n-repeats occur in the 3' UTR, and are not associated with any disease. But in another set of variants, an insertion extends the coding region to include the (CAG)n-repeats which encode a polyglutamine tract. Expansion of the (CAG)n-repeats from the normal 4-16 to 21-28 in the coding region is associated with spinocerebellar ataxia 6. [provided by RefSeq, Mar 2010]

Conjugate	Unconjugated
Format	Liquid
Preservative	None
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. Information available upon request.

### GENE INFORMATION

Gene Name [CACNA1A calcium channel, voltage-dependent, P/Q type, alpha 1A subunit \[Homo sapiens \(human\)\]](#)

<b>Official Symbol</b>	CACNA1A
<b>Synonyms</b>	CACNA1A; calcium channel, voltage-dependent, P/Q type, alpha 1A subunit; BI; EA2; FHM; MHP; APCA; HPCA; MHP1; SCA6; CAV2.1; CACNL1A4; voltage-dependent P/Q-type calcium channel subunit alpha-1A; brain calcium channel 1; brain calcium channel I; calcium channel, L type, alpha-1 polypeptide; voltage-gated calcium channel subunit alpha Cav2.1;
<b>Entrez Gene ID</b>	<a href="#">773</a>
<b>mRNA Refseq</b>	<a href="#">NM_000068.3</a>
<b>Protein Refseq</b>	<a href="#">NP_000059.3</a>
<b>UniProt ID</b>	O00555
<b>Chromosome Location</b>	19p13
<b>Pathway</b>	Calcium Regulation in the Cardiac Cell, organism-specific biosystem; Calcium signaling pathway, organism-specific biosystem; Calcium signaling pathway, conserved biosystem; Cholinergic synapse, organism-specific biosystem; Depolarization of the Presynaptic Terminal Triggers the Opening of Calcium Channels, organism-specific biosystem; Dopaminergic synapse, organism-specific biosystem; Dopaminergic synapse, conserved biosystem; GABAergic synapse, organism-specific biosystem; GABAergic synapse, co
<b>Function</b>	high voltage-gated calcium channel activity; metal ion binding; protein binding; syntaxin binding; voltage-gated calcium channel activity; voltage-gated calcium channel activity;