CAC1A Rabbit pAb

CatalogNo: YN2470

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- IHC,IF

MW
- 275kD (Observed)

Isotype
- IgG

Recommended Dilution Ratios

IHC 1:50-300
IF 1:50-200

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, and 0.02% sodium azide.

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	Synthesized peptide derived from human protein . at AA range: 1401-1450
Specificity	CAC1A Polyclonal Antibody detects endogenous levels of protein.

Target Information

Gene name	CACNA1A CACH4 CACN3 CACNL1A4

Protein Name 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 Cav2.1)

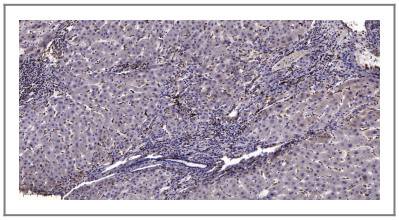
Organism	Gene ID	UniProt ID
Human	773;	O00555;
Mouse		P97445;
Rat		P54282;

Cellular Localization Cell membrane ; Multi-pass membrane protein .

Tissue specificity 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.

Function Alternative products:Additional isoforms seem to exist,Disease:Defects in CACNA1A are the cause of episodic ataxia type 2 (EA2) [MIM:108500]; also known as acetazolamide-responsive hereditary paroxysmal cerebellar ataxia (APCA). EA2 is an autosomal dominant disorder characterized by acetozolamide-responsive attacks of ataxia, migraine-like symptoms, interictal nystagmus, and cerebellar atrophy.,Disease:Defects in CACNA1A are the cause of familial hemiplegic migraine (FHM) [MIM:141500]; also known as migraine familial hemiplegic 1 (MHP1). FHM, a rare autosomal dominant subtype of migraine with aura, is associated with ictal hemiparesis and, in some families, progressive cerebellar atrophy.,Disease:Defects in CACNA1A are the cause of spinocerebellar ataxia type 6 (SCA6) [MIM:183086]. Spinocerebellar ataxia is a clinically and genetically heterogeneous group of cerebellar disorders. Patients show progressive incoordination of gait and often poor coordination of hands, speech and eye movements, due to degeneration of the cerebellum with variable involvement of the brainstem and spinal cord. SCA6 is mainly caused by expansion of a CAG repeat in the coding region of CACNA1A. There seems to be a correlation between the repeat number and earlier onset of the disorder.,Domain:Each of the four internal repeats contains five hydrophobic transmembrane segments (S1, S2, S3, S5, S6) and one positively charged transmembrane segment (S4). S4 segments probably represent the voltage-sensor and are characterized by a series of positively charged amino acids at every third position.,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 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).,polymorphism:The poly-Gln region of CACNA1A is polymorphic: 6 to 17 repeats in the normal population, expanded to about 21 to 30 repeats in SCA6. Repeat expansion has been reported also in a EA2 family.,similarity:Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family.,subunit:Voltage-dependent calcium channels are multisubunit complexes, consisting of alpha-1, alpha-2, beta and delta subunits in a 1:1:1:1 ratio. The channel activity is directed by the pore-forming and voltage-sensitive alpha-1 subunit. In many cases, this subunit is sufficient to generate voltage-sensitive calcium channel activity. The auxiliary subunits beta and alpha-2/delta linked by a disulfide bridge regulate the channel activity.,tissue specificity:Brain specific; mainly found in cerebellum, cerebral cortex, thalamus and hypothalamus. 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.,

Validation Data



Immunohistochemical analysis of paraffin-embedded human liver cancer. 1, Antibody was diluted at 1:200(4° overnight). 2, Tris-EDTA,pH9.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 45min).

Contact information

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Please scan the QR code to access additional product information:
CAC1A Rabbit pAb

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