CACNA1S (PTR1443) Mouse mAb

CatalogNo: YM960182 Recombinant

Key Features

Host Species
- Mouse

Reactivity
- Human,Mouse,Rat

Applications
- WB,IHC,IF,IP,ELISA

MW
- 212kD (Calculated)
180kD (Observed)

Isotype
- Mouse IgG1/Kappa

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA

Recommended Dilution Ratios

IHC 1:50-1:200
WB 1:2000-1:10000
IF 1:200-1:1000
ELISA 1:5000-1:20000
IP 1:50-1:200

Basic Information

Clonality	Monoclonal
Clone Number	PTR1443

Immunogen Information

Specificity	Endogenous

Target Information

Gene name CACNA1S CACH1 CACN1 CACNL1A3

Protein Name Voltage-dependent L-type calcium channel subunit alpha-1S (Calcium channel, L type, alpha-1 polypeptide, isoform 3, skeletal muscle) (Voltage-gated calcium channel subunit alpha Cav1.1)

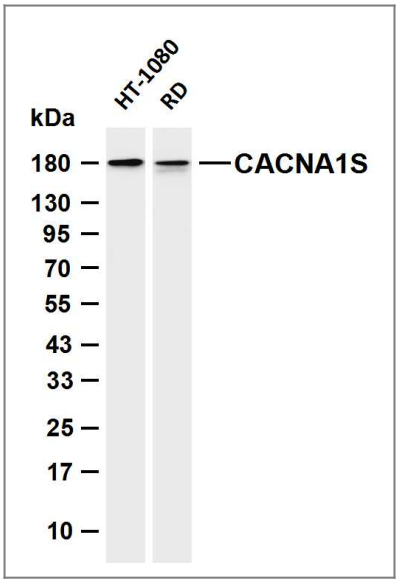
Organism	Gene ID	UniProt ID
Human	779;	Q13698;
Mouse		Q02789;
Rat		Q02485;

Cellular Localization Cell membrane, sarcolemma, T-tubule ; Multi-pass membrane protein .

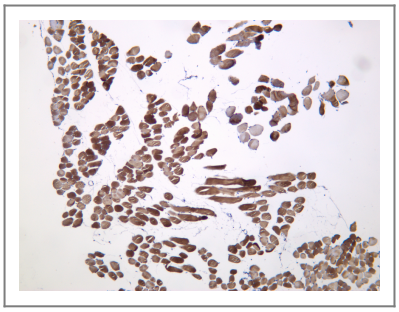
Tissue specificity Skeletal muscle specific.

Function Disease:Defects in CACNA1S are a cause of periodic paralysis hypokalemic (HOKPP) [MIM:170400]; also designated HYPOPP. HOKPP is an autosomal dominant disorder manifested by episodic flaccid generalized muscle weakness associated with falls of serum potassium levels.,Disease:Defects in CACNA1S are the cause of malignant hyperthermia susceptibility 5 (MHS5) [MIM:601887]; an autosomal dominant disorder that is potentially lethal in susceptible individuals on exposure to commonly used inhalational anesthetics and depolarizing muscle relaxants.,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.,Domain:The loop between repeats II and III interacts with the ryanodine receptor, and is therefore important for calcium release from the endoplasmic reticulum necessary for muscle contraction.,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-1S gives rise to L-type calcium currents. Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group. They are blocked by dihydropyridines (DHP), phenylalkylamines, benzothiazepines, and by omega-agatoxin-IIIA (omega-Aga-IIIA). They are however insensitive to omega-conotoxin-GVIA (omega-CTx-GVIA) and omega-agatoxin-IVA (omega-Aga-IVA). Calcium channels containing the alpha-1S subunit play an important role in excitation-contraction coupling in skeletal muscle.,PTM:Phosphorylation by PKA activates the calcium channel.,similarity:Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family.,subunit:Multisubunit complex 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. An additional gamma subunit is present only in skeletal muscle L-type channel. Interacts with DYSF and JSRP1.,tissue specificity:Skeletal muscle specific.,

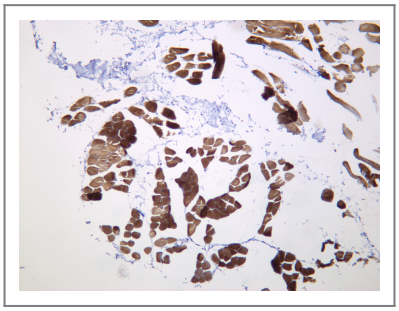
Validation Data



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-CACNA1S (PTR1443) antibody. The HRP-conjugated Goat anti-Mouse IgG (H + L) antibody was used to detect the antibody. Lane 1: HT-1080 Lane 2: RD Predicted band size: 212kDa Observed band size: 180kDa



Mouse skeletal muscle was stained with anti-CACNA1S (PTR1443) Mouse antibody



Rat skeletal muscle was stained with anti-CACNA1S (PTR1443) Mouse antibody

Contact information

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Please scan the QR code to access additional product information:
CACNA1S (PTR1443) Mouse mAb