

CACNA1C Protein, Pig (Cell-Free, His)

Cat. No.:	HY-P702228
Synonyms:	Voltage-dependent L-type calcium channel subunit alpha-1C; Calcium channel, L type, alpha-1 polypeptide, isoform 1, cardiac muscle; Voltage-gated calcium channel subunit alpha Cav1.2
Species:	Pig
Source:	E. coli Cell-free
Accession:	O35505 (F1-Y169)
Gene ID:	100135490
Molecular Weight:	22.3 kDa

PROPERTIES

AA Sequence	<pre> F Q E Q G E Q E Y K N C E L D K N Q R Q C V E Y A L K A R P L R R Y I P I S I T F F R L F R V M R L V K L L S R G E G I R T L L W T F I K S F Q A L P Y V A L L I V M L F F I Y A V I G M Q V F G K I A L N D T T E I N R N N N F Q T F P Q A V L L L F R C A T G E A W Q D I M L A C M P G K K R A P E S E P S N S T E G E T P C G S S F A V F Y </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	CACNA1C, the pore-forming alpha-1C subunit of the voltage-gated calcium channel, gives rise to L-type calcium currents, mediating the influx of calcium ions into the cytoplasm and triggering calcium release from the sarcoplasm. With a crucial role in excitation-contraction coupling in the heart, CACNA1C is essential for normal heart development, heart rhythm regulation, and the contraction of smooth muscle cells in blood vessels and the intestine. It plays a pivotal role in the regulation of blood pressure by contributing to the contraction of arterial smooth muscle cells. As a member of the 'high-voltage activated' (HVA) group, CACNA1C's long-lasting calcium channels are inhibited by dihydropyridines like isradipine
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and nifedipine. The channel activity is intricately regulated by Ca(2+) and calmodulin, with binding of STAC1, STAC2, or STAC3 inhibiting channel inactivation by Ca(2+) and calmodulin. Moreover, shear stress and pressure increase calcium channel activity, adding another layer of regulation to its dynamic functionality.

Caution: Product has not been fully validated for medical applications. For research use only.

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