Recombinant Human CaSR Protein (His Tag)

Catalog Number: PDEH100906

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

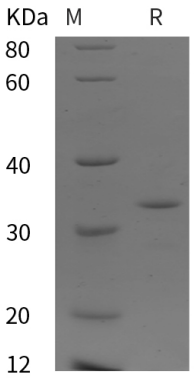
Description

Species	Human
Source	E.coli-derived Human CaSR protein Lys863-Ser1078, with an N-terminal His
Calculated MW	23.7 kDa
Observed MW	35 kDa
Accession	P41180
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human CaSR proteins, 2 μg/lane of Recombinant Human CaSR proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 35 kDa.

Background

CaSR, the extracellular Calcium-Sensing Receptor, is a widely expressed G-protein coupled receptor (GPCR) involved in calcium homeostasis. CaSR operates as a sensor in parathyroid and kidney, and alterations in its activity have been shown to cause thyroid disease in humans. Activation of the receptor in response to extracellular calcium or other ligands causes activation of phospholipase C (PLC), release of IP3 and release of calcium from intracellular stores. Proinflammatory cytokines IL-1β and TNF-α increase CaSR gene expression in human thyroid and kidney cells through activation of the NF-κB pathway, and this pathway may be involved in hypocalcemia often seen in critically ill patients. Elevated calcium concentration and CaSR expression have been linked to proliferation and metastasis of skeletal metastatic prostate cancer cell lines. In intestinal epithelial cells, CaSR is involved in regulation of cyclic nucleotide metabolism and the fluid secretion that results in life-threatening fluid loss in response to intestinal pathogens. The interaction of CaSR with the actin-binding protein filamin may provide scaffolding for the organization of signaling pathways converging on the cytoskeleton, including CaSR-mediated MAPK pathway activation.

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