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Datasheet for ABIN7538153

CALCRL Protein

1 Image

Overview

Quantity:	50 µg
Target:	CALCRL
Origin:	Human
Source:	Mammalian Cells
Protein Type:	MSP Nanodisc

Product Details

Purpose:	Human CGRPR-RAMP1 full length protein membrane nanoparticles (MNPs)
Characteristics:	Plasma membrane-coated nanoparticles (MNPs) have been used in various applications, including delivery of therapeutic agents and induction of immune responses et al. Unlike the conventional strategies, MNPs directly leverage intact and natural functions of cell membranes, and show high biocompatibility, specificity, and low side effects. Our optimized MNPs platform for the full-length membrane protein production uses membrane coating technology and a HEK293 based expression platform. The high-purity plasma membrane-coated nanoparticles were produced by extrusion after membrane extraction from the host HEK293 cells containing the overexpressed target proteins.

Target Details

Target:	CALCRL
Alternative Name:	CGRPR (CALCRL Products)
Background:	The CGRP receptor (CGRPR) is a member of family B G protein coupled receptors (GPCRs), is expressed throughout the trigeminal system, including neurons and endothelial cells. They

Target Details

usually function with accessory proteins such as receptor activity modifying proteins (RAMPs) and Na/H exchange regulatory factors (NHERFs). CGRPR is a heterodimer complex of the calcitonin receptor-like receptor (CRLR) and receptor activity-modifying protein 1 (RAMP1). Therapeutics for migraine treatment are mostly targeting CRLR-RAMP1 protein-protein interaction surfaces, thereby blocking CGRP activity.

Molecular Weight: The human full length CGRPR protein has a MW of 53.0 kDa

UniProt: [Q16602](#)

Pathways: [cAMP Metabolic Process](#)

Application Details

Comment: Advantages of Membrane Nanoparticles (MNPs):

- High display density of target membrane proteins
- Native structure and orientation of transmembrane protein
- soluble in aqueous solutions for routine biochemical analysis
- Detergent-free purification process
- Strong immunogenicity
- Works for MPs that can't be produced via VLPs and EXOs

Limitations of Membrane Nanoparticles (MNPs):

- Lack of accurate quantification of the target membrane proteins.
- Need to develop special SPR assayx.
- Cell membranes contain housekeeping proteins that can result in immune response dilution.
- Some membrane proteins can't be enriched on membrane.

Restrictions: For Research Use only

Handling

Format: Lyophilized

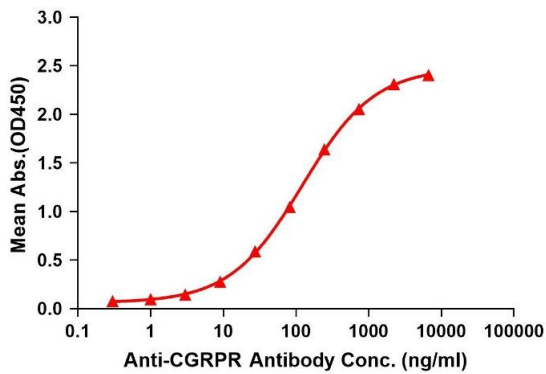
Buffer: Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose is added as protectants before lyophilization.

Storage: -20 °C,-80 °C

Storage Comment: Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.

Expiry Date: 12 months

ELISA assay to evaluate CGRPR-RAMP1-MNP
0.5µg Human CGRPR-RAMP1-MNP per well



ELISA

Image 1. Elisa plates were pre-coated with 0.5 µg/per well purified human CGRPR-R full length membrane nanoparticles. Serial diluted anti-CGRPR monoclonal antibody ((ABIN7538756)) solutions were added, washed, and incubated with secondary antibody before Elisa reading. From above data, the EC50 for anti-CGRPR monoclonal antibody binding with CGRPR-R full length membrane nanoparticles is 122.8 ng/mL.