Datasheet for ABIN7538121

Adenosine A2a Receptor Protein (ADORA2A)

2 Images

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Overview

Quantity:	50 µg
Target:	Adenosine A2a Receptor (ADORA2A)
Origin:	Human
Source:	Mammalian Cells
Protein Type:	MNP Membrane Nanoparticle

Product Details

Purpose:	Human ADORA2A 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:	Adenosine A2a Receptor (ADORA2A)
Alternative Name:	ADORA2A (ADORA2A Products)
Background:	A member of the guanine nucleotide-binding protein (G protein)-coupled receptor (GPCR) superfamily, which is subdivided into classes and subtypes. The receptors are seven-pass

Target Details

	transmembrane proteins that respond to extracellular cues and activate intracellular signal transduction pathways. This protein, an adenosine receptor of A2A subtype, uses adenosine as the preferred endogenous agonist and preferentially interacts with the G(s) and G(olf) family of G proteins to increase intracellular cAMP levels. It plays an important role in many biological functions, such as cardiac rhythm and circulation, cerebral and renal blood flow, immune function, pain regulation, and sleep. It has been implicated in pathophysiological conditions such as inflammatory diseases and neurodegenerative disorders. Alternative splicing results in multiple transcript variants. A read-through transcript composed of the upstream SPECC1L (sperm antigen with calponin homology and coiled-coil domains 1-like) and ADORA2A (adenosine A2a receptor) gene sequence has been identified, but it is thought to be non-coding.
Molecular Weight:	The human full length ADORA2A protein has a MW of 44.7 kDa
UniProt:	P29274
Pathways:	Neurotrophin Signaling Pathway, cAMP Metabolic Process, Synaptic Membrane, Feeding Behaviour, Cancer Immune Checkpoints

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

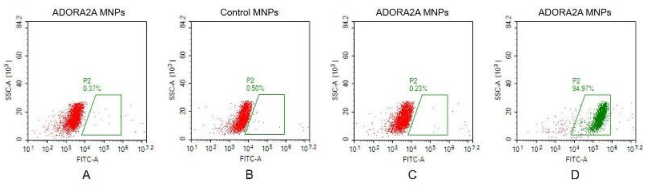
Handling

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

Handling

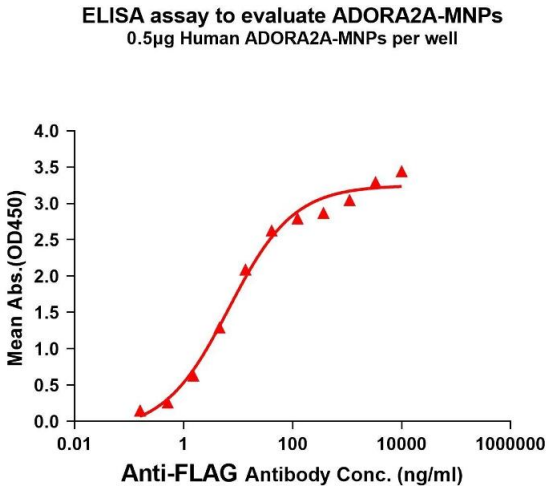
Storage:	-20 °C,-80 °C
Storage Comment:	Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Expiry Date:	12 months

Images



Flow Cytometry

Image 1. FACS analysis of ADA MNPs A. Negative Control 1: ADA full length membrane nanoparticles samples were stained only with Goat anti-mouse IgG 488 secondary antibody. B. Negative Control 2: Control membrane nanoparticles samples were stained with anti-ADA antibody (R&D systems, R) at 2 µg/mL, followed by Goat anti-mouse IgG 488 secondary antibody. C. Negative Control 3: ADA full length membrane nanoparticles samples were stained with anti-His antibody (an irrelevant antibody) at 2 µg/mL, followed by Goat anti-mouse IgG 488 secondary antibody. D. ADA full length membrane nanoparticles samples were stained with anti-ADA antibody (R&D systems, R) at 2 µg/mL, followed by Goat anti-mouse IgG 488 secondary antibody.



ELISA

Image 2. Elisa plates were pre-coated with 0.5 µg/per well purified human ADA full length membrane nanoparticles. Serial diluted anti-Flag monoclonal antibody (Sigma, F3165) solutions were added, washed, and incubated with secondary antibody before Elisa reading. From above data, the EC50 for anti-Flag monoclonal antibody binding with C full length membrane nanoparticles is 6.796 ng/mL.