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Biotin Human IL13RA2 (CD213A2) Protein (C-Fc-Avi)

Catalog Number:	804803, 804804
Size:	25 ug, 100 ug
Target Name:	IL13RA2, CD213A2, IL-13R, IL13BP
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	ELISA, BLI
Format:	Liquid, Biotinylated
Expression Host:	CHO
Species:	Human
Sources:	Recombinant Human IL13RA2 protein (Cys22-Leu342) with C-terminus Fc-Avi tag is expressed in CHO cells. This protein was site-specifically labeled with Biotin by BirA ligase.
Accession Number:	Q14627
Molecular Weight:	The protein has a predicted molecular weight of 65.7 kDa. Under DTT-reducing conditions, it migrates at approximately 65-80 kDa on SDS-PAGE.
Affinity Tag:	C-Fc-Avi
Purity:	>95% based on SDS-PAGE under reducing condition
Formulation:	1xPBS buffer, pH7.4, 0.22 μm filtered
Endotoxin level:	Not tested
Protein Concentration:	25μg size is bottled at 0.2mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.
Storage and Handling:	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.
Recommended Usage:	For detection, use a secondary reagent with this product.

BACKGROUND INFORMATION

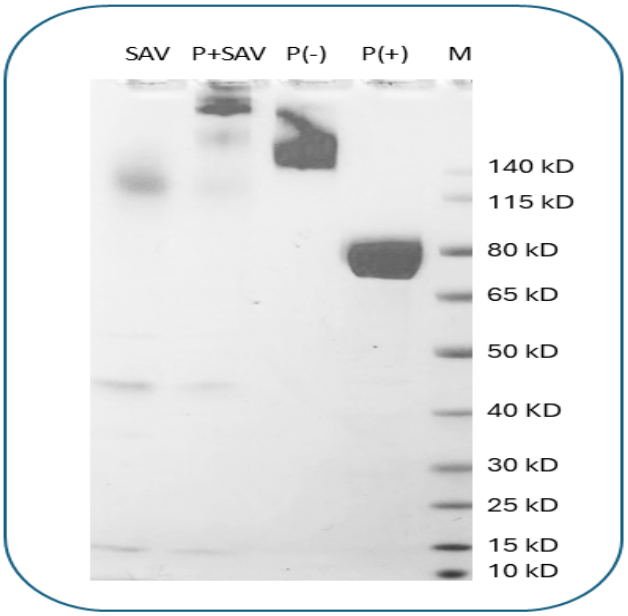
CD213a2, also known as interleukin-13 receptor alpha 2 (IL-13Rα2), is a high-affinity receptor for the cytokine interleukin-13 (IL-13). Unlike the canonical IL-13 receptor complex that mediates signaling, CD213a2 functions primarily as a decoy receptor, binding IL-13 with very high affinity but failing to transduce typical downstream signals. This unique property allows CD213a2 to modulate inflammatory and immune responses by sequestering IL-13 and preventing its interaction with signaling-competent receptors. In normal physiology, CD213a2 helps regulate type 2 immune responses and limits excessive IL-13-mediated inflammation.

Structurally, CD213a2 is a type I transmembrane glycoprotein consisting of an extracellular domain, a single transmembrane region, and a short cytoplasmic tail. The extracellular domain contains fibronectin type III-like repeats that form the IL-13 binding interface. Unlike the signaling IL-13 receptor alpha 1 (IL-13Rα1), CD213a2 has a truncated cytoplasmic domain lacking motifs necessary for JAK-STAT pathway activation. This structural feature explains its decoy function, though recent studies suggest it may mediate alternative signaling pathways, including TGF-β activation and AP-1 transcription factor signaling in certain cellular contexts.

The primary ligand for CD213a2 is IL-13, a pleiotropic cytokine involved in allergic inflammation, fibrosis, and immune regulation. CD213a2 binds IL-13 with approximately 50-fold higher affinity than the signaling receptor complex, making it an effective negative regulator. Additionally, soluble forms of CD213a2 can be shed from the cell surface, functioning as circulating decoy receptors that neutralize IL-13 activity systemically.

In disease, CD213a2 has garnered significant attention in oncology due to its selective overexpression in various malignancies, including glioblastoma, pancreatic cancer, ovarian cancer, and certain sarcomas, while being minimally expressed in normal tissues. This tumor-restricted expression pattern makes CD213a2 an attractive therapeutic target. Several immunotherapeutic approaches are under development, including chimeric antigen receptor (CAR) T cell therapies targeting CD213a2-positive glioblastomas, bispecific antibodies, and IL-13-based immunotoxins that exploit the receptor's high-affinity binding to deliver cytotoxic payloads selectively to tumor cells. Clinical trials have shown promising results, particularly in recurrent glioblastoma, positioning CD213a2 as an emerging biomarker and therapeutic target in precision cancer medicine.

PRODUCT DATA



Human Human IL13RA2 Protein (C-Fc-Avi) Protein is biotinylated by BirA ligase in vitro. Biotinylated Human Human IL13RA2 protein on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The purity of this protein appears to be greater than 95%. Based on Gel shift Assay by co-incubation with Streptavidin, biotinylation efficiency is >70% for Biotinylated Human Human IL13RA2.