Human IL-13 Rα2 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2725C
Catalog Number: MAB6142

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Human IL-13 Rα2 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2725C
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived Human IL-13 Rα2 Met1-Leu342 Accession # NP_000631
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

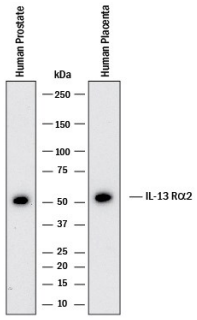
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	Human prostate and human placenta
Simple Western	0.5 µg/mL	Human placenta

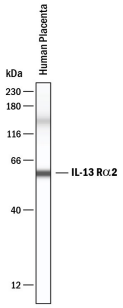
DATA

Western Blot



Detection of Human IL-13 Rα2 by Western Blot. Western blot shows lysates of human prostate and human placenta. PVDF membrane was probed with 0.5 µg/mL of Rabbit Anti-Human IL-13 Rα2 Monoclonal Antibody (Catalog # MAB6142) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for IL-13 Rα2 at approximately 55 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Simple Western



Detection of Human IL-13 Rα2 by Simple Western™. Simple Western lane view shows lysates of human placenta, loaded at 0.2 mg/mL. A specific band was detected for IL-13 Rα2 at approximately 59 kDa (as indicated) using 0.5 µg/mL of Rabbit Anti-Human IL-13 Rα2 Monoclonal Antibody (Catalog # MAB6142) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Interleukin-13 Receptor alpha 2 (IL-13 Rα2), also known as IL-13 binding protein, and CD213a2, is a widely expressed 55 kDa cytokine receptor that plays an important role in the Th2-polarized immune responses characteristic of a variety of pathologies, including parasitic infections and allergic asthma (1, 2). Mature human IL-13 Rα2 consists of a 317 amino acid (aa) extracellular domain with three fibronectin type-III domains, a WSxWS motif, a 20 aa transmembrane segment, and a 17 aa cytoplasmic domain (3). Within the ECD, human IL-13 Rα2 shares 64% and 62% aa sequence identity with mouse and rat IL-13 Rα2, respectively. In both mouse and human, a 40 kDa-50 kDa soluble form of IL-13 Rα2 can be generated by MMP-8 mediated shedding *in vitro* (4). Although this is assumed to occur *in vivo* in mouse, there is no evidence that shedding occurs in human (5-7). In mouse, alternative splicing also leads to sIL-13 Rα2, but again, this phenomenon apparently does not occur in human (6-7). Thus, the biological effects of human IL-13 Rα2 would appear to be mediated exclusively by membrane IL-13 Rα2 (7). The biological effects of IL-13 and IL-4 are closely related in part due to a shared receptor system. IL-13 binds to IL-13 Rα1 which then forms a signaling complex with IL-4 Rα (8, 9). IL-13 Rα2 functions as a decoy receptor by binding and internalizing IL-13 and preventing it from signaling through the IL-13 Rα1/IL-4 Rα complex (3, 10). IL-13 Rα2 can also block IL-4 induced responses by inhibiting IL-4 bound IL-13 Rα1/IL-4 Rα receptor complexes even though it does not itself bind IL-4 (11, 12). Aside from its decoy function, IL-13-activated IL-13 Rα2 directly promotes the development of tissue fibrosis by inducing the transcription of TGF-β (13). Presumably, any human soluble IL-13 Rα2, if it exists, will retain its ligand binding capability and attenuate responses to IL-13 but not to IL-4 (11, 14). The up-regulation of transmembrane during Th2-biased immune responses limits the extent of those responses (15-17).

References:

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