

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                               |
| <b>Specificity</b>                                                                                                                                                                                      | Detects Human IL-13 Rα2 in direct ELISAs.                                                           |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Rabbit IgG Clone # 2725C                                                                 |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from cell culture supernatant                                               |
| <b>Immunogen</b>                                                                                                                                                                                        | Chinese Hamster Ovary cell line CHO-derived Human IL-13 Rα2<br>Met1-Leu342<br>Accession # NP_000631 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                     |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                        |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                     |

## 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## 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).

## PRODUCT SPECIFIC NOTICES

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