SANTA CRUZ BIOTECHNOLOGY, INC.

IL-13Rα1 (GM-1C8): sc-101381

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Th2 cytokine interleukin-13 (IL-13) plays a critical role in allergen-induced airway hyper-responsiveness (AHR). Two different receptors exist for IL-13, designated IL-13Rα1 and 2. IL-13Rα1 exists as a heterodimer of IL-13Rα1 and IL-4Rα as a signaling subunit, whereas IL-13Rα2 acts as a decoy receptor for IL-13. Furthermore, TNFα or IL-4 stimulation induces IL-13Rα2 upregulation, while IL-13Rα1 is constitutively expressed. Cell surface localization of IL-13Rα2 abrogates IL-13 signaling, thus IL-13 induced translocation of the receptor from the cytoplasm provides a mechanism for negative-feedback of IL-13 signaling. IL-13Rα1 expression is predominant in B cells, monocytes and T cells, whereas IL-13Rα2 expression is highest in glioma cells.

REFERENCES

1. Guo, J., et al. 1997. Chromosome mapping and expression of the human interleukin-13 receptor. Genomics 42: 141-145.
2. Graber, P., et al. 1998. The distribution of IL-13 receptor α1 expression on B cells, T cells and monocytes and its regulation by IL-13 and IL-4. Eur. J. Immunol. 28: 4286-4298.
3. Wu, A.H., et al. 2002. Molecular cloning of the rat IL-13 α2 receptor cDNA and its expression in rat tissues. J. Neurooncol. 59: 99-105.
4. Park, J.W., et al. 2003. Respiratory syncytial virus-induced airway hyperresponsiveness is independent of IL-13 compared with that induced by allergen. J. Allergy Clin. Immunol. 112: 1078-1087.
5. Yasunaga, S., et al. 2003. The negative-feedback regulation of the IL-13 signal by the IL-13 receptor α2 chain in bronchial epithelial cells. Cytokine 24: 293-303.
6. Yoshikawa, M., et al. 2003. TNFα and IL-4 regulate expression of IL-13 receptor α2 on human fibroblasts. Biochem. Biophys. Res. Commun. 312: 1248-1255.
7. Kawakami, M., et al. 2004. Analysis of interleukin-13 receptor α2 expression in human pediatric brain tumors. Cancer 101: 1036-1042.
8. Myrtek, D., et al. 2004. Expression of interleukin-13 receptor α 1-subunit on peripheral blood eosinophils is regulated by cytokines. Immunology 112: 597-604.

CHROMOSOMAL LOCATION

Genetic locus: IL13RA1 (human) mapping to Xq24.

SOURCE

IL-13Rα1 (GM-1C8) is a mouse monoclonal antibody genetically immunized with cDNA encoding IL-13Rα1 extracellular domain of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-13Rα1 (GM-1C8) is available conjugated to either phycoerythrin (sc-101381 PE) or fluorescein (sc-101381 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

IL-13Rα1 (GM-1C8) is recommended for detection of IL-13Rα1 of human origin by flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-13Rα1 siRNA (h): sc-63337, IL-13Rα1 shRNA Plasmid (h): sc-63337-SH and IL-13Rα1 shRNA (h) Lentiviral Particles: sc-63337-V.

Molecular Weight of IL-13Rα1: 48 kDa.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.