

IL-13R α 1 (GM-1E7): sc-101382

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-13R α 1 and 2. IL-13R α 1 exists as a heterodimer of IL-13R α 1 and IL-4R α as a signaling subunit, whereas IL-13R α 2 acts as a decoy receptor for IL-13. Furthermore, TNF α or IL-4 stimulation induces IL-13R α 2 upregulation, while IL-13R α 1 is constitutively expressed. Cell surface localization of IL-13R α 2 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-13R α 1 expression is predominant in B cells, monocytes and T cells, whereas IL-13R α 2 expression is highest in glioma cells.

REFERENCES

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- Park, J.W., et al. 2003. Respiratory syncytial virus-induced airway hyper-responsiveness is independent of IL-13 compared with that induced by allergen. *J. Allergy Clin. Immunol.* 112: 1078-1087.
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- Yoshikawa, M., et al. 2003. TNF α and IL-4 regulate expression of IL-13 receptor α 2 on human fibroblasts. *Biochem. Biophys. Res. Commun.* 312: 1248-1255.
- Kawakami, M., et al. 2004. Analysis of interleukin-13 receptor α 2 expression in human pediatric brain tumors. *Cancer* 101: 1036-1042.
- 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-13R α 1 (GM-1E7) is a mouse monoclonal antibody genetically immunized with cDNA encoding IL-13R α 1 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 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-13R α 1 (GM-1E7) is available conjugated to either phycoerythrin (sc-101382 PE) or fluorescein (sc-101382 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

IL-13R α 1 (GM-1E7) is recommended for detection of IL-13R α 1 of hman origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-13R α 1 siRNA (h): sc-63337, IL-13R α 1 shRNA Plasmid (h): sc-63337-SH and IL-13R α 1 shRNA (h) Lentiviral Particles: sc-63337-V.

Molecular Weight of IL-13R α 1: 48 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

- Yang, X., et al. 2020. IL-13R α 1 protects against rheumatoid arthritis by combating the apoptotic resistance of fibroblast-like synoviocytes. *Arthritis Res. Ther.* 22: 184.
- Feng, T., et al. 2021. IL13R α 1 prevents a castration resistant phenotype of prostate cancer by targeting hexokinase 2 for ubiquitin-mediated degradation. *Cancer Biol. Med.* 19: 1008-1028.

PROTOCOLS

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