

IL-13R α 2 (W07): sc-74159

BACKGROUND

The Th2 cytokine interleukin-13 (IL-13) plays a critical role in allergen-induced airway hyperresponsiveness (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

1. Guo, J., Apiou, F., Mellerin, M.P., Lebeau, B., Jacques, Y. and Minvielle, S. 1997. Chromosome mapping and expression of the human interleukin-13 receptor. *Genomics* 42: 141-145.
2. Gruber, P., Gretener, D., Herren, S., Aubry, J.P., Elson, G., Poudrier, J., Lecoanet-Henchoz, S., Alouani, S., Losberger, C., Bonnefoy, J.Y., Kosco-Vilbois, M.H. and Gauchat, J.F. 1998. The distribution of IL-13 receptor α 1 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. and Low, W.C. 2002. Molecular cloning of the rat IL-13 α 2 receptor cDNA and its expression in rat tissues. *J. Neurooncol.* 59: 99-105.
4. Park, J.W., Taube, C., Yang, E.S., Joetham, A., Balhorn, A., Takeda, K., Miyahara, N., Dakhamma, A., Donaldson, D.D. and Gelfand, E.W. 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., Yuyama, N., Arima, K., Tanaka, H., Toda, S., Maeda, M., Matsui, K., Goda, C., Yang, Q., Sugita, Y., Nagai, H. and Izuhara, K. 2003. The negative-feedback regulation of the IL-13 signal by the IL-13 receptor α 2 chain in bronchial epithelial cells. *Cytokine* 24: 293-303.
6. Yoshikawa, M., Nakajima, T., Tsukidate, T., Matsumoto, K., Iida, M., Otori, N., Haruna, S., Moriyama, H. and Saito, H. 2003. TNF α and IL-4 regulate expression of IL-13 receptor α 2 on human fibroblasts. *Biochem. Biophys. Res. Commun.* 312: 1248-1255.
7. Kawakami, M., Kawakami, K., Takahashi, S., Abe, M. and Puri, R.K. 2004. Analysis of interleukin-13 receptor α 2 expression in human pediatric brain tumors. *Cancer* 101: 1036-1042.
8. Myrtek, D., Knoll, M., Matthiesen, T., Krause, S., Lohrmann, J., Schillinger, D., Idzko, M., Virchow, J.C., Friedrich, K. and Luttmann, W. 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: Il13ra2 (mouse) mapping to X F2.

RESEARCH USE

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

SOURCE

IL-13R α 2 (W07) is a rat monoclonal antibody raised against an extracellular domain of IL-13R α 2 of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG $_2a$ in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

IL-13R α 2 (W07) is recommended for detection of IL-13R α 2 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000); non cross-reactive with IL-4R, IL-9R or IL-13R α 1.

Suitable for use as control antibody for IL-13R α 2 siRNA (m): sc-63340, IL-13R α 2 shRNA Plasmid (m): sc-63340-SH and IL-13R α 2 shRNA (m) Lentiviral Particles: sc-63340-V.

Molecular Weight of IL-13R α 2: 44 kDa.

STORAGE

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

PROTOCOLS

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