SANTA CRUZ BIOTECHNOLOGY, INC.

IL-13Rα2 (B-D13): sc-57267

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. and Low, W.C. 2002. Molecular cloning of the rat IL-13 α2 receptor cDNA and its expression in rat tissues. J. Neurooncol. 59: 99-105.
4. 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.
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. 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.
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 α1 subunit on peripheral blood eosinophils is regulated by cytokines. Immunology 112: 597-604.

CHROMOSOMAL LOCATION

Genetic locus: IL13RA2 (human) mapping to Xq23.

SOURCE

IL-13Rα2 (B-D13) is a mouse monoclonal antibody raised against IL-13Rα2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATION

IL-13Rα2 (B-D13) is recommended for detection of IL-13Rα2 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for IL-13Rα2 siRNA (h): sc-63339, IL-13Rα2 shRNA Plasmid (h): sc-63339-SH and IL-13Rα2 shRNA (h) Lentiviral Particles: sc-63339-V.

Molecular Weight of IL-13Rα2: 44 kDa.

SELECT PRODUCT CITATIONS

1. Di Tomaso, T., et al. 2010. Immunobiological characterization of cancer stem cells isolated from glioblastoma patients. Clin. Cancer Res. 16: 800-813.
2. Lechner, M.G., et al. 2010. Characterization of cytokine-induced myeloid-derived suppressor cells from normal human peripheral blood mononuclear cells. J. Immunol. 185: 2273-2284.
3. Liebertz, D.J., et al. 2010. Establishment and characterization of a novel head and neck squamous cell carcinoma cell line USC-HN1. Head Neck Oncol. 2: 5.
4. Russell, S.M., et al. 2011. USC-HN2, a new model cell line for recurrent oral cavity squamous cell carcinoma with immunosuppressive characteristics. Oral Oncol. 47: 810-817.
5. Mazzarella, T., et al. 2011. Ex vivo enrichment of circulating anti-tumor T cells from both cutaneous and ocular melanoma patients: clinical implications for adoptive cell transfer therapy. Cancer Immunol. Immunother. 61: 1169-1182.
6. Olin, M.R., et al. 2011. Oxygen is a master regulator of the immunogenicity of primary human glioma cells. Cancer Res. 71: 6583-6589.
7. Balyasnikova, I.V., et al. 2012. Characterization and immunotherapeutic implications for a novel antibody targeting interleukin (IL)-13 receptor α2. J. Biol. Chem. 287: 30215-30227.
8. Volonté, A., et al. 2014. Cancer-initiating cells from colorectal cancer patients escape from T cell-mediated immunosurveillance *in vitro* through membrane-bound IL-4. J. Immunol. 192: 523-532.

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.