SANTA CRUZ BIOTECHNOLOGY, INC.

GM-CSFRα (4H1): sc-21764

BACKGROUND

The human IL-3, IL-5 and GM-CSF receptors are each composed of both unique α subunits and a common β subunit. The α subunits are low-affinity ligand binding proteins while the β subunits do not themselves bind ligand, but are required for high-affinity binding by the α subunits. In contrast, the mouse IL-3 receptor has two distinct β subunits, one that functions only in IL-3 mediated cell signaling and a second that is shared with IL-5 and GM-CSF. The murine β subunits are 91% homologous at the amino acid level but only 56% homologous to the human β subunit. Although neither the murine nor the human β subunit contains tyrosine kinase domains, both activate tyrosine phosphorylation mediated signaling pathways.

CHROMOSOMAL LOCATION

Genetic locus: CSF2RA (human) mapping to Xp22.33/Yp11.32; Csf2ra (mouse) mapping to 19 D3.

SOURCE

GM-CSFRα (4H1) is a mouse monoclonal antibody raised against the α chain of GM-CSF receptor of human origin.

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.

GM-CSFRα (4H1) is available conjugated to either phycoerythrin (sc-21764 PE) or fluorescein (sc-21764 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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.

APPLICATIONS

GM-CSFRα (4H1) is recommended for detection of GM-CSFRα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 GM-CSFRα siRNA (h): sc-35501, GM-CSFRα siRNA (m): sc-40057, GM-CSFRα shRNA Plasmid (h): sc-35501-SH, GM-CSFRα shRNA Plasmid (m): sc-40057-SH, GM-CSFRα shRNA (h) Lentiviral Particles: sc-35501-V and GM-CSFRα shRNA (m) Lentiviral Particles: sc-40057-V.

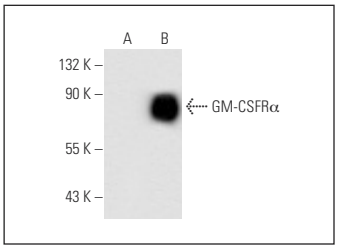
Molecular Weight of GM-CSFRα: 80 kDa.

Positive Controls: GM-CSFRα (h): 293T Lysate: sc-159381 or HL-60 + DMSO cell lysate: sc-24703.

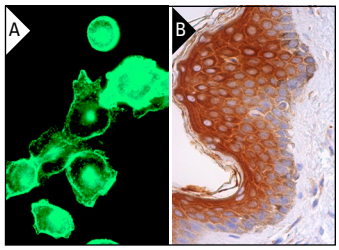
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GM-CSFRα (4H1): sc-21764. Western blot analysis of GM-CSFRα expression in non-transfected: sc-117752 (**A**) and human GM-CSFRα transfected: sc-159381 (**B**) 293T whole cell lysates.



GM-CSFRα (4H1): sc-21764. Immunofluorescence staining of methanol-fixed CHO cells transfected with GM-CSFRα showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes and Langerhans cells (**B**).

SELECT PRODUCT CITATIONS

1. Martinez-Moczygemba, M., et al. 2008. Pulmonary alveolar proteinosis caused by deletion of the GM-CSFRα gene in the X chromosome pseudoautosomal region 1. J. Exp. Med. 205: 2711-2716.
2. Van de Laar, E., et al. 2014. Cell surface marker profiling of human tracheal basal cells reveals distinct subpopulations, identifies MST1/MSP as a mitogenic signal, and identifies new biomarkers for lung squamous cell carcinomas. Respir. Res. 15: 160.
3. Donatien, P., et al. 2018. Granulocyte-macrophage colony-stimulating factor receptor expression in clinical pain disorder tissues and role in neuronal sensitization. Pain Rep. 3: e676.
4. Sinkey, R.G., et al. 2020. Thrombin-induced decidual colony-stimulating factor-2 promotes abruption-related preterm birth by weakening fetal membranes. Am. J. Pathol. 190: 388-399.

PROTOCOLS

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