

IL-3/IL-5/GM-CSFR β (A-3): sc-398246

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.

REFERENCES

- Hayashida, K., et al. 1990. Molecular cloning of a second subunit of the receptor for human granulocyte macrophage colony-stimulating factor (GM-CSF): reconstitution of a high affinity GM-CSF receptor. *Proc. Natl. Acad. Sci. USA* 87: 9655-9659.
- Tavernier, J., et al. 1992. A human high affinity interleukin-5 receptor (IL-5R) is composed of an IL-5 specific chain and a β chain shared with the receptor for GM-CSF. *Cell* 66: 1175-1184.

CHROMOSOMAL LOCATION

Genetic locus: CSF2RB (human) mapping to 22q12.3; Csf2rb (mouse) mapping to 15 E1.

SOURCE

IL-3/IL-5/GM-CSFR β (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-46 at the N-terminus of IL-3/IL-5/GM-CSFR β of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-3/IL-5/GM-CSFR β (A-3) is available conjugated to agarose (sc-398246 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398246 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398246 PE), fluorescein (sc-398246 FITC), Alexa Fluor[®] 488 (sc-398246 AF488), Alexa Fluor[®] 546 (sc-398246 AF546), Alexa Fluor[®] 594 (sc-398246 AF594) or Alexa Fluor[®] 647 (sc-398246 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398246 AF680) or Alexa Fluor[®] 790 (sc-398246 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398246 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

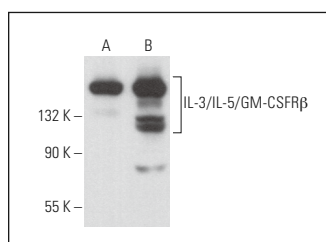
IL-3/IL-5/GM-CSFR β (A-3) is recommended for detection of 130 kDa β chain common to IL-3R, IL-5R and GM-CSFR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-3/IL-5/GM-CSFR β siRNA (h): sc-35658, IL-3/IL-5/GM-CSFR β siRNA (m): sc-35659, IL-3/IL-5/GM-CSFR β shRNA Plasmid (h): sc-35658-SH, IL-3/IL-5/GM-CSFR β shRNA Plasmid (m): sc-35659-SH, IL-3/IL-5/GM-CSFR β shRNA (h) Lentiviral Particles: sc-35658-V and IL-3/IL-5/GM-CSFR β shRNA (m) Lentiviral Particles: sc-35659-V.

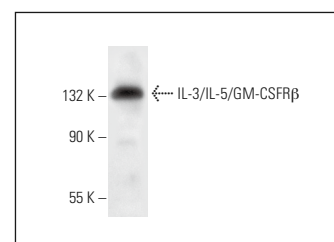
Molecular Weight of IL-3/IL-5/GM-CSFR β : 130 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, C6 whole cell lysate: sc-364373 or HuT 78 whole cell lysate: sc-2208.

DATA



IL-3/IL-5/GM-CSFR β (A-3): sc-398246. Western blot analysis of IL-3/IL-5/GM-CSFR β expression in RAW 264.7 (A) and C6 (B) whole cell lysates.



IL-3/IL-5/GM-CSFR β (A-3): sc-398246. Western blot analysis of IL-3/IL-5/GM-CSFR β expression in HuT 78 whole cell lysate.

SELECT PRODUCT CITATIONS

- Wagai, S., et al. 2019. UNC93B1 promotes tumoral growth by controlling the secretion level of granulocyte macrophage colony-stimulating factor in human oral cancer. *Biochem. Biophys. Res. Commun.* 513: 81-87.
- Vázquez-Méndez, E., et al. 2020. Recombinant erythropoietin provides protection against renal fibrosis in adenine-induced chronic kidney disease. *Mediators Inflamm.* 2020: 8937657.
- Zeng, L.W., et al. 2022. The membrane-associated ubiquitin ligases MARCH2 and MARCH3 target IL-5 receptor alpha to negatively regulate eosinophilic airway inflammation. *Cell. Mol. Immunol.* 19: 1117-1129.
- Christofides, A., et al. 2023. SHP-2 and PD-1-SHP-2 signaling regulate myeloid cell differentiation and antitumor responses. *Nat. Immunol.* 24: 55-68.

RESEARCH USE

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

PROTOCOLS

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