

# IL-6 (1): sc-130326

## BACKGROUND

Interleukin 6, or IL-6, is a multifunctional protein, 212 amino acids in length, that plays critical roles in host defense, immune response and hematopoiesis. IL-6 is constitutively expressed by epidermal Langerhans cells and its expression is induced in stimulated keratinocytes. IL-6, IL-1 $\beta$  and TNF $\alpha$  act as endogenous pyrogens, regulating the fever response to bacterial invasion. The IL-6 receptor is a trimeric complex composed of an IL-6-specific  $\alpha$  chain and a homodimer of the gp130 glycoprotein common to the IL-6, IL-11, CNTF, OSM and LIF receptors. Stimulation with IL-6 leads to gp130 homodimerization and the activation of associated kinases JAK1 and JAK2. Once activated, JAK1 and JAK2 phosphorylate Stat3, causing its nuclear translocation and transcription of Stat3-responsive genes. IL-6 has also been shown to activate the Ras/MAP kinase pathway, which regulates NF-IL-6 transcription.

## CHROMOSOMAL LOCATION

Genetic locus: IL6 (human) mapping to 7p15.3.

## SOURCE

IL-6 (1) is a mouse monoclonal antibody raised against recombinant IL-6 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-6 (1) is available conjugated to agarose (sc-130326 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130326 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130326 PE), fluorescein (sc-130326 FITC), Alexa Fluor<sup>®</sup> 488 (sc-130326 AF488), Alexa Fluor<sup>®</sup> 546 (sc-130326 AF546), Alexa Fluor<sup>®</sup> 594 (sc-130326 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-130326 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-130326 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-130326 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

IL-6 (1) is recommended for detection of IL-6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IL-6 siRNA (h): sc-39627, IL-6 shRNA Plasmid (h): sc-39627-SH and IL-6 shRNA (h) Lentiviral Particles: sc-39627-V.

Molecular Weight of IL-6: 21 kDa.

Positive Controls: IL-6 (h2): 293T Lysate: sc-176119 or HeLa whole cell lysate: sc-2200.

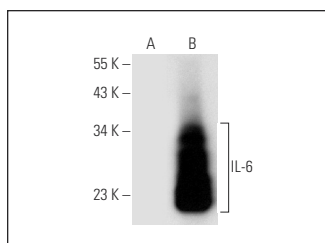
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

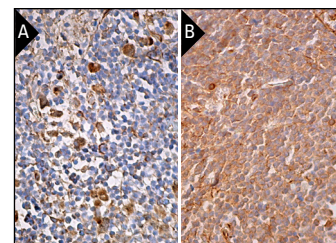
## RESEARCH USE

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

## DATA



IL-6 (1): sc-130326. Western blot analysis of IL-6 expression in non-transfected: sc-117752 (A) and human IL-6 transfected: sc-176119 (B) 293T whole cell lysates.



IL-6 (1): sc-130326. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic and membrane staining of subset of cells in non-germinal center (A,B).

## SELECT PRODUCT CITATIONS

- Kliman, H.J., et al. 2012. Placental protein 13 and decidual zones of necrosis: an immunologic diversion that may be linked to preeclampsia. *Reprod. Sci.* 19: 16-30.
- Chung, S.W., et al. 2017. Altered gene and protein expressions in torn rotator cuff tendon tissues in diabetic patients. *Arthroscopy* 33: 518-526.
- Yun, M.R., et al. 2018. ERK-dependent IL-6 autocrine signaling mediates adaptive resistance to pan-PI3K inhibitor BKM120 in head and neck squamous cell carcinoma. *Oncogene* 37: 377-388.
- Martins, D.E., et al. 2019. Molecular alterations of human lumbar yellow ligament related to the process of intervertebral disk degeneration and stenosis. *Eur. Spine J.* 28: 1413-1422.
- Wäster, P., et al. 2020. Extracellular vesicles released by melanocytes after UVA irradiation promote intercellular signaling via miR21. *Pigment Cell Melanoma Res.* 33: 542-555.
- Luta, G., et al. 2021. Enhancing anti-tumoral potential of CD-NHF by modulating PI3K/Akt axis in U87 *ex vivo* glioma model. *Int. J. Mol. Sci.* 22: 3873.
- Yang, C., et al. 2022. Hsa\_circ\_0017728 as an oncogene in gastric cancer by sponging miR-149 and modulating the IL-6/STAT3 pathway. *Arch. Med. Sci.* 18: 1558-1571.
- González-Chávez, S.A., et al. 2023. Complete Freund's Adjuvant induces a fibroblast-like synoviocytes (FLS) metabolic and migratory phenotype in resident fibroblasts of the inoculated footpad at the earliest stage of adjuvant-induced arthritis. *Cells* 12: 842.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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