

IL-6 (6D9A1): sc-65989

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 β and TNF α 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 α 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 NFIL6 transcription.

REFERENCES

- Hirano, T., et al. 1986. Complementary DNA for a novel human interleukin (BSF-2) that induces B lymphocytes to produce immunoglobulin. *Nature* 324: 73-76.
- Nakajima, T., et al. 1993. Phosphorylation at threonine 235 by a Ras-dependent mitogen-activated protein kinase cascade is essential for transcription factor NF-IL6. *Proc. Natl. Acad. Sci. USA* 90: 2207-2211.
- Zhong, Z., et al. 1994. Stat3: a Stat family member activated by tyrosine phosphorylation in response to epidermal growth factor and interleukin-6. *Science* 264: 95-98.
- Wijdenes, J., et al. 1995. Interleukin-6 signal transducer gp130 has specific binding sites for different cytokines as determined by antagonistic and agonistic anti-gp130 monoclonal antibodies. *Eur. J. Immunol.* 25: 3474-3481.

CHROMOSOMAL LOCATION

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

SOURCE

IL-6 (6D9A1) is a mouse monoclonal antibody raised against recombinant IL-6 of human origin.

PRODUCT

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

APPLICATIONS

IL-6 (6D9A1) is recommended for detection of IL-6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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.

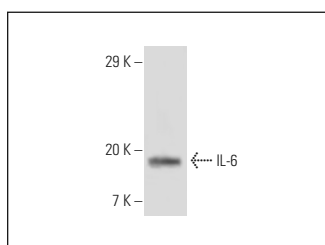
Molecular Weight of IL-6: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml).

DATA



IL-6 (6D9A1): sc-65989. Western blot analysis of human recombinant IL-6 protein.

SELECT PRODUCT CITATIONS

- Bai, D., et al. 2017. Attenuation of focal adhesion kinase reduces lipopolysaccharide-induced inflammation injury through inactivation of the Wnt and NF κ B pathways in A549 cells. *Biochemistry* 82: 446-453.
- Ba, W., et al. 2019. Metformin inhibits pro-inflammatory responses via targeting nuclear factor- κ B in HaCaT cells. *Cell Biochem. Funct.* 37: 4-10.
- Li, W., et al. 2021. Papaverine perfusion via the aortic root before heart re-beating alleviates myocardial injury after heart valve replacement. *Arch. Med. Res.* 52: 405-413.
- Carata, E., et al. 2024. Extracellular vesicles from NSC-34 MN-like cells transfected with mutant SOD1 modulate inflammatory status of RAW 264.7 macrophages. *Genes* 15: 735.

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.

PROTOCOLS

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



See **IL-6 (E-4): sc-28343** for IL-6 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.