SANTA CRUZ BIOTECHNOLOGY, INC.

IL-6 (10E5): sc-57315

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-1β and TNFα 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.

CHROMOSOMAL LOCATION

Genetic locus: Il6 (mouse) mapping to 5 B1.

SOURCE

IL-6 (10E5) is a mouse monoclonal antibody raised against full length IL-6 of rat origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IL-6 (10E5) is recommended for detection of IL-6 of mouse and rat 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)], flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-6 siRNA (m): sc-39628, IL-6 siRNA (r): sc-156148, IL-6 shRNA Plasmid (m): sc-39628-SH, IL-6 shRNA Plasmid (r): sc-156148-SH, IL-6 shRNA (m) Lentiviral Particles: sc-39628-V and IL-6 shRNA (r) Lentiviral Particles: sc-156148-V.

Molecular Weight of IL-6: 21 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185.

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).

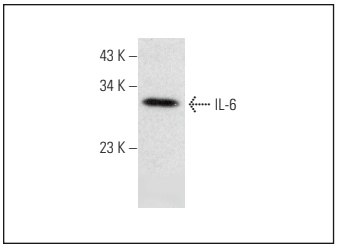
STORAGE

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.

DATA



IL-6 (10E5): sc-57315. Western blot analysis of IL-6 expression in Neuro-2A whole cell lysate.

SELECT PRODUCT CITATIONS

1. Aldaba-Muruato, L.R., et al. 2012. Protective effects of allopurinol against acute liver damage and cirrhosis induced by carbon tetrachloride: modulation of NFκB, cytokine production and oxidative stress. Biochim. Biophys. Acta 1820: 65-75.
2. Gómez-Zorita, S., et al. 2013. Effects of resveratrol on obesity-related inflammation markers in adipose tissue of genetically obese rats. Nutrition 29: 1374-1380.
3. Suh, H.R., et al. 2015. The effects of Chamaecyparis obtusa essential oil on pain-related behavior and expression of pro-inflammatory cytokines in carrageenan-induced arthritis in rats. Biosci. Biotechnol. Biochem. 80: 203-209.
4. Pérez-Vargas, J.E., et al. 2016. l-Theanine prevents carbon tetrachloride-induced liver fibrosis via inhibition of nuclear factor κB and down-regulation of transforming growth factor β and connective tissue growth factor. Hum. Exp. Toxicol. 35: 135-146.
5. Prema, A., et al. 2017. Fenugreek seed powder attenuated aluminum chloride-induced Tau pathology, oxidative stress, and inflammation in a rat model of Alzheimer's disease. J. Alzheimers Dis. 60: S209-S220.
6. Jin, H., et al. 2018. Resveratrol protects murine chondrogenic ATDC5 cells against LPS-induced inflammatory injury through up-regulating MiR-146b. Cell. Physiol. Biochem. 47: 972-980.
7. Xie, Y., et al. 2018. Electro-acupuncture stimulation prevents remifentanil-induced postoperative hyperalgesia by suppressing spinal microglia in rats. Exp. Ther. Med. 16: 353-359.
8. Mohanraj, M., et al. 2019. The mycobacterial adjuvant analogue TDB attenuates neuroinflammation via mincle-independent PLC-γ1/PKC/ERK signaling and microglial polarization. Mol. Neurobiol. 56: 1167-1187.

PROTOCOLS

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