

IL-10 (2G101H7): sc-57245

BACKGROUND

Interleukin-10, or IL-10, is a 178 amino acid protein that is primarily secreted by TH2 clones. IL-10 has dual functions, the first of which is the suppression of cytokine production by TH1 clones responding to antigen presented by monocyte and macrophage antigen presenting cells (APCs). The second function consists of the inhibition of response of cytokine targeted cells, possibly by the downregulation of CD25 (the IL-2 receptor) on macrophages and B lymphocytes. Human and murine IL-10 exhibit 81% sequence identity at the amino acid level and share 73% identity at the cDNA level. Both human and murine IL-10 are acid-labile and exist as non-covalently-linked homodimers in solution. IL-10 exerts its biological activity through the IL-10 receptor (IL-10R), a glycoprotein whose expression can be induced in cultured macrophages and fibroblasts by lipopolysaccharide (LPS) stimulation. IL-10 expression has been shown to be elevated in HIV-1 infected individuals and has been implicated in the progression of the disease.

REFERENCES

1. Feng, L., et al. 1993. Molecular cloning of rat cytokine synthesis inhibitory factor (IL-10) cDNA and expression in spleen and macrophages. *Biochem. Biophys. Res. Commun.* 192: 452-458.
2. Cohen, S.B., et al. 1994. IL-10 enhances expression of the IL-2 receptor α chain on T cells. *Immunology* 83: 329-332.
3. Weber-Nordt, R.M., et al. 1994. Lipopolysaccharide-dependent induction of IL-10 receptor expression on murine fibroblasts. *J. Immunol.* 153: 3734-3744.
4. Bromberg, J.S. 1995. IL-10 immunosuppression in transplantation. *Curr. Opin. Immunol.* 7: 639-643.
5. Ludewig, B., et al. 1996. Transmission of HIV-1 from productively infected mature Langerhans cells to primary CD4⁺ T lymphocytes results in altered T cell responses with enhanced production of IFN- γ and IL-10. *Virology* 215: 51-60.

CHROMOSOMAL LOCATION

Genetic locus: Il10 (mouse) mapping to 1 E4.

SOURCE

IL-10 (2G101H7) is a mouse monoclonal antibody raised against full length IL-10 of rat origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

IL-10 (2G101H7) is recommended for detection of recombinant and native IL-10 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IL-10 monomer: 20 kDa.

Molecular Weight of IL-10 dimer: 37 kDa.

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 NF κ B, cytokine production and oxidative stress. *Biochim. Biophys. Acta* 1820: 65-75.
2. Arauz, J., et al. 2012. Coffee attenuates fibrosis by decreasing the expression of TGF- β and CTGF in a murine model of liver damage. *J. Appl. Toxicol.* 33: 970-979.
3. Zhou, X., et al. 2012. Autocrine Sonic hedgehog attenuates inflammation in cerulein-induced acute pancreatitis in mice via upregulation of IL-10. *PLoS ONE* 7: e44121.
4. Perez-Vargas, J.E., et al. 2014. Hesperidin prevents liver fibrosis in rats by decreasing the expression of nuclear factor- κ B, transforming growth factor- β and connective tissue growth factor. *Pharmacology* 94: 80-89.
5. Arauz, J., et al. 2014. Caffeine prevents experimental liver fibrosis by blocking the expression of TGF- β . *Eur. J. Gastroenterol. Hepatol.* 26: 164-173.
6. Arauz, J., et al. 2015. Nicotinic acid prevents experimental liver fibrosis by attenuating the prooxidant process. *Int. Immunopharmacol.* 28: 244-251.
7. Dai, S.Y., et al. 2015. Brain endogenous angiotensin II receptor type 2 (AT2-R) protects against DOCA/salt-induced hypertension in female rats. *J. Neuroinflammation* 12: 47.
8. Perez-Vargas, J.E., et al. 2016. L-Theanine prevents carbon tetrachloride-induced liver fibrosis via inhibition of nuclear factor κ B and down-regulation of transforming growth factor β and connective tissue growth factor. *Hum. Exp. Toxicol.* 35: 135-146.
9. Sukumaran, V., et al. 2017. Azilsartan ameliorates diabetic cardiomyopathy in young db/db mice through the modulation of ACE-2/ANG 1-7/Mas receptor cascade. *Biochem. Pharmacol.* 144: 90-99.
10. Gao, H.L., et al. 2021. Apigenin improves hypertension and cardiac hypertrophy through modulating NADPH oxidase-dependent ROS generation and cytokines in hypothalamic paraventricular nucleus. *Cardiovasc. Toxicol.* 21: 721-736.

CONJUGATES

See **IL-10 (E-10): sc-8438** for IL-10 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.