SANTA CRUZ BIOTECHNOLOGY, INC.

TNFα (C-4): sc-133192

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tumor necrosis factor β (TNFβ), also known as lymphotoxin, is a pleiotropic cytokine. TNFα, also known as cachectin, is a smaller cytokine that binds to the same receptors producing a vast array of effects similar to those of TNFβ. TNFβ and TNFα share 30% amino acid homology and have similar biological activities. TNFβ is produced by activated lymphocytes, including $CD4^+$ T helper cell type 1 lymphocytes, $CD8^+$ lymphocytes and certain B lymphoblastoid cell lines. TNFα is produced by several different cell types, which include lymphocytes, neutrophils and macrophages. TNFα and TNFβ can modulate many immune and inflammatory functions, while having the ability to inhibit tumor growth. Target tumor cells must express TNF receptors 1 and 2 to be killed, with the p55 receptor mediating the cytotoxic response.

CHROMOSOMAL LOCATION

Genetic locus: TNF (human) mapping to 6p21.33.

SOURCE

TNFα (C-4) is a mouse monoclonal antibody raised against amino acids 77-233 of TNFα of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TNFα (C-4) is available conjugated to agarose (sc-133192 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133192 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133192 PE), fluorescein (sc-133192 FITC), Alexa Fluor® 488 (sc-133192 AF488), Alexa Fluor® 546 (sc-133192 AF546), Alexa Fluor® 594 (sc-133192 AF594) or Alexa Fluor® 647 (sc-133192 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133192 AF680) or Alexa Fluor® 790 (sc-133192 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

TNFα (C-4) is recommended for detection of TNFα of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 TNFα siRNA (h): sc-37216, TNFα shRNA Plasmid (h): sc-37216-SH and TNFα shRNA (h) Lentiviral Particles: sc-37216-V.

Molecular Weight of transmembrane TNFα: 26 kDa.

Molecular Weight of soluble TNFα: 17 kDa.

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

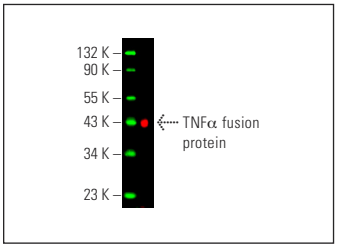
RESEARCH USE

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

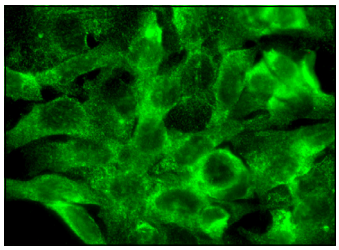
STORAGE

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

DATA



TNFα (C-4) Alexa Fluor® 790: sc-133192 AF790. Direct near-infrared western blot analysis of human recombinant TNFα fusion protein. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.



TNFα (C-4): sc-133192. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Impellizzeri, D., et al. 2012. Effect of fasudil, a selective inhibitor of Rho kinase activity, in the secondary injury associated with the experimental model of spinal cord trauma. J. Pharmacol. Exp. Ther. 343: 21-33.
2. Kamysz, E., et al. 2016. Anti-inflammatory effect of novel analogs of natural enkephalinase inhibitors in a mouse model of experimental colitis. Future Med. Chem. 8: 2231-2243.
3. Altonsy, M.O., et al. 2017. Long-acting β_2-agonists promote glucocorticoid-mediated repression of NFκB by enhancing expression of the feedback regulator TNFAIP3. Am. J. Physiol. Lung Cell. Mol. Physiol. 312: L358-L370.
4. Liu, X., et al. 2018. β4GalT1 mediates PPARγ N-glycosylation to attenuate microglia inflammatory activation. Inflammation 41: 1424-1436.
5. Salaga, M., et al. 2019. Systemic administration of serotonin exacerbates abdominal pain and colitis via interaction with the endocannabinoid system. Biochem. Pharmacol. 161: 37-51.
6. Álvarez-Cilleros, D., et al. 2020. Cocoa diet modulates gut microbiota composition and improves intestinal health in Zucker diabetic rats. Food Res. Int. 132: 109058.
7. Platania, C.B.M., et al. 2020. Novel indole derivatives targeting HuR-mRNA complex to counteract high glucose damage in retinal endothelial cells. Biochem. Pharmacol. 175: 113908.
8. Wang, X., et al. 2020. Glimepiride and glibenclamide have comparable efficacy in treating acute ischemic stroke in mice. Neuropharmacology 162: 107845.

PROTOCOLS

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