SANTA CRUZ BIOTECHNOLOGY, INC.

TRAIL (D-3): sc-8440

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Proteins belonging to the tumor necrosis factor (TNF) superfamily are potent mediators of inflammation and of the immune system. Members of the TNF superfamily include TNFβ, lymphotoxin β (LTβ), CD40L, CD30L, CD27L, Ox40L, 4-1BBL and FAS-L (APO-1). Most TNF family members are type II transmembrane proteins that are proteolytically processed at their carboxy-terminal extracellular domain to form a soluble homotrimeric molecule. The extracellular domain of an additional TNF family member, designated TNF-related apoptosis-inducing ligand (TRAIL) or APO-2L, exhibits 14-28% homology with other members of the TNF family. Like soluble FAS-L, soluble TRAIL will induce apoptosis. The morphological and cellular changes caused by the introduction of soluble TRAIL to Jurkat cells are indistinguishable from those caused by the introduction of soluble FAS-L. Unlike FAS-L, whose expression is more or less restricted to activated T cells, significant levels of TRAIL are observed in many tissues and it is constitutively expressed by some cell lines.

CHROMOSOMAL LOCATION

Genetic locus: TNFSF10 (human) mapping to 3q26.31.

SOURCE

TRAIL (D-3) is a mouse monoclonal antibody raised against amino acids 25-281 mapping at the C-terminus of TRAIL of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRAIL (D-3) is available conjugated to agarose (sc-8440 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8440 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8440 PE), fluorescein (sc-8440 FITC), Alexa Fluor® 488 (sc-8440 AF488), Alexa Fluor® 546 (sc-8440 AF546), Alexa Fluor® 594 (sc-8440 AF594) or Alexa Fluor® 647 (sc-8440 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8440 AF680) or Alexa Fluor® 790 (sc-8440 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TRAIL (D-3) is recommended for detection of TRAIL of human 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)], 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 TRAIL siRNA (h): sc-36719, TRAIL shRNA Plasmid (h): sc-36719-SH and TRAIL shRNA (h) Lentiviral Particles: sc-36719-V.

Molecular Weight of TRAIL: 34 kDa.

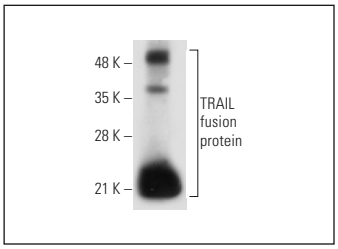
Molecular Weight of soluble TRAIL: 20 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, HL-60 whole cell lysate: sc-2209 or A549 cell lysate: sc-2413.

STORAGE

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

DATA



TRAIL (D-3): sc-8440. Western blot analysis of human recombinant TRAIL fusion protein.

SELECT PRODUCT CITATIONS

1. Dorr, J., et al. 2002. Lack of tumor necrosis factor-related apoptosis-inducing ligand but presence of its receptors in the human brain. J. Neurosci. 22: RC209.
2. Zhao, Y., et al. 2007. Apoptosis in the skeletal muscle of untreated children with juvenile dermatomyositis: impact of duration of untreated disease. Clin. Immunol. 125: 165-172.
3. Seol, J.W., et al. 2009. Hypoxic resistance to articular chondrocyte apoptosis—a possible mechanism of maintaining homeostasis of normal articular cartilage. FEBS J. 276: 7375-7385.
4. Vila, A.M., et al. 2010. Development of a new magnetic beads-based immunoprecipitation strategy for proteomics analysis. J. Proteomics 73: 1491-1501.
5. Liu, J., et al. 2013. Tumor-targeting TRAIL expression mediated by miRNA response elements suppressed growth of uveal melanoma cells. Mol. Oncol. 7: 1043-1055.
6. Huo, W., et al. 2014. MiRNA regulation of TRAIL expression exerts selective cytotoxicity to prostate carcinoma cells. Mol. Cell. Biochem. 388: 123-133.
7. Li, J. 2018. Neuroprotective effect of (-)-epigallocatechin-3-gallate on autoimmune thyroiditis in a rat model by an anti-inflammation effect, anti-apoptosis and inhibition of TRAIL signaling pathway. Exp. Ther. Med. 15: 1087-1092.
8. Lee, G.T., et al. 2019. Dihydrotestosterone increases cytotoxic activity of macrophages on prostate cancer cells via TRAIL. Endocrinology 160: 2049-2060.
9. Sp, N., et al. 2020. Tannic acid promotes TRAIL-induced extrinsic apoptosis by regulating mitochondrial ROS in human embryonic carcinoma cells. Cells 9: 282.

RESEARCH USE

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