SANTA CRUZ BIOTECHNOLOGY, INC.

DR4 (H-130): sc-7863

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated by two distinct cell surface receptors, designated TNF-R1 and TNF-R2, which are expressed on most cell types. TNF function is primarily mediated through TNF-R1 signaling. Both receptors belong to the growing TNF receptor superfamily which, includes FAS antigen and CD40. TNF-R1 contains a cytoplasmic motif, termed the "death domain," that has been found to be necessary for the transduction of the apoptotic signal. The death domain is also found in several other receptors, including FAS, DR2 (or TRUNDD), DR3 (Death Receptor 3), DR4 and DR5. TRUNDD, DR4 and DR5 are receptors for the apoptosis-inducing cytokine TRAIL. A non-death domain-containing receptor, designated decoy receptor (DcR1 or TRID), also specifically associates with TRAIL and may play a role in cellular resistance to apoptotic stimuli.

REFERENCES

1. Tartaglia, L.A., et al. 1993. A novel domain within the 55 kDa TNF receptor signals cell death. Cell 74: 845-853.
2. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation, and death. Cell 76: 959-962.
3. Nagata, S., et al. 1995. The FAS death factor. Science 267: 1449-1456.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF10A (human) mapping to 8p21.3.

SOURCE

DR4 (H-130) is a rabbit polyclonal antibody raised against amino acids 1-130 of DR4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DR4 (H-130) is recommended for detection of DR4 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 DR4 siRNA (h): sc-35218, DR4 shRNA Plasmid (h): sc-35218-SH and DR4 shRNA (h) Lentiviral Particles: sc-35218-V.

Molecular Weight of DR4: 56 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or DR4 (h): 293 Lysate: sc-112977.

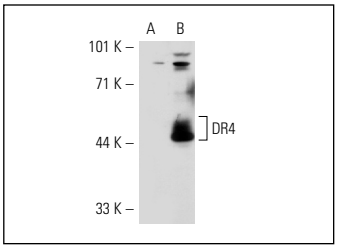
STORAGE

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

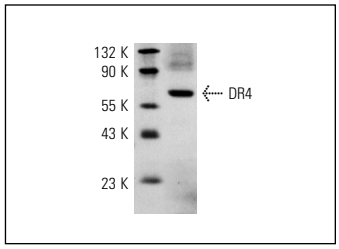
RESEARCH USE

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

DATA



DR4 (H-130): sc-7863. Western blot analysis of DR4 expression in non-transfected: sc-110760 (**A**) and human DR4 transfected: sc-112977 (**B**) 293 whole cell lysates.



DR4 (H-130): sc-7863. Western blot analysis of DR4 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ozawa, F., et al. 2001. Effects and expression of TRAIL and its apoptotic-promoting receptors in human pancreatic cancer. Cancer Lett. 163: 71-81.
2. Vindrieux, D., et al. 2006. TNF-α-related apoptosis-inducing ligand decoy receptor DcR2 is targeted by androgen action in the rat ventral prostate. J. Cell. Physiol. 206: 709-717.
3. Mulherkar, N., et al. 2007. MADD/DENN splice variant of the IG20 gene is a negative regulator of caspase-8 activation. Knockdown enhances TRAIL-induced apoptosis of cancer cells. J. Biol. Chem. 282: 11715-11721.
4. Prasad, S., et al. 2010. Garcinol potentiates TRAIL-induced apoptosis through modulation of death receptors and antiapoptotic proteins. Mol. Cancer Ther. 9: 856-868.
5. Kannappan, R., et al. 2010. γ-tocotrienol promotes TRAIL-induced apoptosis through reactive oxygen species/extracellular signal-regulated kinase/p53-mediated upregulation of death receptors. Mol. Cancer Ther. 9: 2196-2207.
6. Sung, B., et al. 2010. Gossypol induces death receptor-5 through activation of the ROS-ERK-CHOP pathway and sensitizes colon cancer cells to TRAIL. J. Biol. Chem. 285: 35418-35427.
7. Gupta, S.C., et al. 2011. Nimbolide sensitizes human colon cancer cells to TRAIL through reactive oxygen species- and ERK-dependent up-regulation of death receptors, p53, and Bax. J. Biol. Chem. 286: 1134-1146.
8. Prasad, S., et al. 2011. Ursolic acid, a pentacyclin triterpene, potentiates TRAIL-induced apoptosis through p53-independent up-regulation of death receptors: evidence for the role of reactive oxygen species and JNK. J. Biol. Chem. 286: 5546-5557.