SANTA CRUZ BIOTECHNOLOGY, INC.

# TNF-R2 (D-2): sc-8041

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated through two distinct cell surface receptors. These receptors, designated TNF-R1 and TNF-R2, are expressed on most cell types. The majority of TNF functions are primarily mediated through TNF-R1, while signaling through TNF-R2 occurs less extensively and is confined to cells of the immune system. Both of these proteins belong to the growing TNF and nerve growth factor (NGF) receptor superfamily, which includes Fas, CD30, CD27 and CD40. The members of this superfamily are type I membrane proteins that share sequence homology confined to the extracellular region. TNF-R1 shares a motif termed the "death domain" with Fas and three structurally unrelated signaling proteins, TRADD, FADD and RIP. This death domain is required for transduction of the apoptotic signal.

## CHROMOSOMAL LOCATION

Genetic locus: TNFRSF1B (human) mapping to 1p36.22; Tnfrsf1b (mouse) mapping to 4 E1.

## SOURCE

TNF-R2 (D-2) is a mouse monoclonal antibody raised against amino acids 260-461 mapping at the C-terminus of TNF-R2 of human origin.

## PRODUCT

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

TNF-R2 (D-2) is available conjugated to agarose (sc-8041 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8041 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8041 PE), fluorescein (sc-8041 FITC), Alexa Fluor® 488 (sc-8041 AF488), Alexa Fluor® 546 (sc-8041 AF546), Alexa Fluor® 594 (sc-8041 AF594) or Alexa Fluor® 647 (sc-8041 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8041 AF680) or Alexa Fluor® 790 (sc-8041 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

TNF-R2 (D-2) is recommended for detection of TNF-R2 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 TNF-R2 siRNA (h): sc-36689, TNF-R2 siRNA (m): sc-36690, TNF-R2 shRNA Plasmid (h): sc-36689-SH, TNF-R2 shRNA Plasmid (m): sc-36690-SH, TNF-R2 shRNA (h) Lentiviral Particles: sc-36689-V and TNF-R2 shRNA (m) Lentiviral Particles: sc-36690-V.

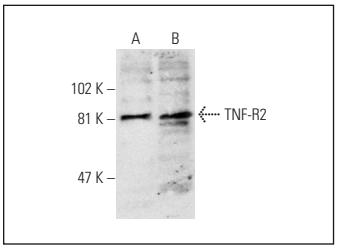
Molecular Weight of TNF-R2: 75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, SK-BR-3 cell lysate: sc-2218 or MCF7 whole cell lysate: sc-2206.

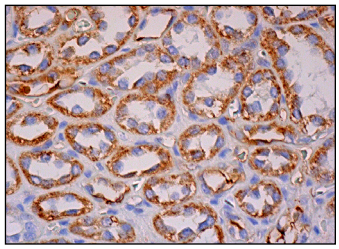
## STORAGE

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

## DATA




TNF-R2 (D-2): sc-8041. Western blot analysis of TNF-R2 expression in SK-BR-3 (**A**) and Jurkat (**B**) whole cell lysates.



TNF-R2 (D-2): sc-8041. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS


1. Fontaine, V., et al. 2002. Neurodegenerative and neuroprotective effects of tumor necrosis factor (TNF) in retinal ischemia: opposite roles of TNF receptor 1 and TNF receptor 2. J. Neurosci. 22: 1-7.
2. Hooper, L.C., et al. 2005. Retinal degeneration in experimental coronavirus retinopathy (ECOR) is associated with increased TNF-α, soluble TNF-R2 and altered TNF-α signaling. J. Neuroimmunol. 166: 65-74.
3. Garcia-Tunon, I., et al. 2006. Role of tumor necrosis factor-α and its receptors in human benign breast lesions and tumors *(in situ* and infiltrative). Cancer Sci. 97: 1044-1049.
4. Gordon, G.J., et al. 2007. Inhibitor of apoptosis proteins are regulated by tumour necrosis factor-α in malignant pleural mesothelioma. J. Pathol. 211: 439-446.
5. Romanatto, T., et al. 2009. Deletion of tumor necrosis factor-α receptor 1 (TNF-R1) protects against diet-induced obesity by means of increased thermogenesis. J. Biol. Chem. 284: 36213-36222.
6. Fernández, R., et al. 2011. Lipopolysaccharide signaling in the carotid chemoreceptor pathway of rats with sepsis syndrome. Respir. Physiol. Neurobiol. 175: 336-348.
7. Vattemi, G., et al. 2013. Overexpression of TNF-α in mitochondrial diseases caused by mutations in mtDNA: evidence for signaling through its receptors on mitochondria. Free Radic. Biol. Med. 63C: 108-114.
8. Wu, S., et al. 2016. Cooperative effects of hepatitis B virus and TNF may play important roles in the activation of metabolic pathways through the activation of NFκB. Int. J. Mol. Med. 38: 475-481.
9. Como, C.N., et al. 2018. Interleukin-6 and type 1 interferons inhibit varicella zoster virus replication in human neurons. Virology 522: 13-18.


## RESEARCH USE

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