SANTA CRUZ BIOTECHNOLOGY, INC.

DR4 (DR4.1): sc-32255

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. and Golstein P. 1995. The FAS death factor. Science 267: 1449-1456.
4. Kitson, J., et al. 1996. A death-domain-containing receptor that mediates apoptosis. Nature 384: 372-375.
5. Pan, G., et al. 1997. The receptor for the cytotoxic ligand TRAIL. Science 276: 111-113.
6. Pan, G., et al. 1997. An antagonist decoy receptor and a death domain-containing receptor for TRAIL. Science 277: 815-818.

CHROMOSOMAL LOCATION

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

SOURCE

DR4 (DR4.1) is a mouse monoclonal antibody raised against recombinant DR4 fusion protein 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.

APPLICATIONS

DR4 (DR4.1) is recommended for detection of DR4 of human origin by 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 flow cytometry (1 µg per 1 x 10^6 cells).

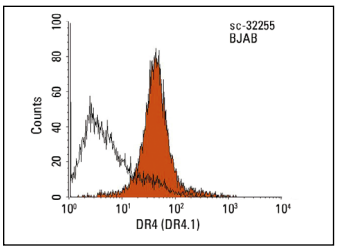
Suitable for use as control antibody for DR4 siRNA (h): sc-35218, DR4 shRNA Plasmid (h): sc-35218-SH and DR4 shRNA (h) Lentiviral Particles: sc-35218-V.

Molecular Weight of DR4: 56 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DR4 (DR4.1): sc-32255. Indirect FCM analysis of BJAB cells stained with DR4 (DR4.1), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1, sc-3877.

SELECT PRODUCT CITATIONS

1. Wang, Z., et al. 2016. A novel capsid-modified oncolytic recombinant adenovirus type 5 for tumor-targeting gene therapy by intravenous route. Oncotarget 7: 47287-47301.
2. Qu, Y., et al. 2019. EFLDO sensitizes liver cancer cells to TNFSF10-induced apoptosis in a p53-dependent manner. Mol. Med. Rep. 19: 3799-3806.
3. Kitamura, Y., et al. 2021. Anti-EGFR VHH-armed death receptor ligand-engineered allogeneic stem cells have therapeutic efficacy in diverse brain metastatic breast cancers. Sci. Adv. 7: eabe8671.
4. Vaughan, H.J., et al. 2021. Poly(β-amino ester) nanoparticles enable tumor-specific TRAIL secretion and a bystander effect to treat liver cancer. Mol. Ther. Oncolytics 21: 377-388.

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.

CONJUGATES

See **DR4 (B-9): sc-8411** for DR4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.