Revision 1

DR5 Antibody

Store at -20C

#3696

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	40, 48	Rabbit	#O14763	8795

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

DR5 Antibody detects the precursor and mature forms of isoforms 1 and 2 of DR5. Cross reactivity was not detected with other family members.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding cysteine 248 of isoform 1 of human DR5. Antibodies were purified by protein A and peptide affinity chromatography.

Background

The tumor necrosis factor receptor family, which includes TNF-RI, Fas, DR3, DR4, DR5, and DR6, plays an important role in the regulation of apoptosis in various physiological systems (1,2). The receptors are activated by a family of cytokines that include TNF, FasL, and TNF-related apoptosis-inducing ligand (TRAIL). They are characterized by a highly conserved extracellular region containing cysteine-rich repeats and a conserved intracellular region of about 80 amino acids termed the death domain (DD). The DD is important for transducing the death signal by recruiting other DD containing adaptor proteins (FADD, TRADD, RIP) to the death-inducing signaling complex (DISC), resulting in activation of caspases.
DR5 is a receptor for TNF-related apoptosis inducing ligand (TRAIL), which has been been shown to induce apoptosis in variety of cell types and has been targeted for cancer therapy (1-5). Structurally, DR5 contains an amino-terminal leader cleavage site followed by an extracellular region containing two cysteine-rich repeats, then a central transmembrane domain and a carboxy-terminal death domain. DR5 is expressed in a wide variety of tissues and is transcriptional target for p53 (6-8). It induces apoptosis through a FADD-dependent pathway. Deletion of DR5 leads to resistance in TRAIL-mediated apoptosis as well as an abrogated response to DNA-damaging stimuli (9).

Background References

1. Nagata, S. (1997) *Cell* 88, 355-65.
2. Thorburn, A. (2004) *Cell Signal* 16, 139-44.
3. Wiley, S.R. et al. (1995) *Immunity* 3, 673-82.
4. Walczak, H. et al. (1997) *EMBO J.* 16, 5386-97.
5. Chaudhary, P.M. et al. (1997) *Immunity* 7, 821-30.
6. MacFarlane, M. et al. (1997) *J. Biol. Chem.* 272, 25417-20.
7. Wu, G.S. et al. (2000) *Adv. Exp. Med. Biol.* 465, 143-51.
8. Wu, G.S. et al. (1997) *Nat. Genet.* 17, 141-3.
9. Finnberg, N. et al. (2005) *Mol. Cell Biol.* 25, 2000-13.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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