SANTA CRUZ BIOTECHNOLOGY, INC.

GITR (M-20): sc-7135

BACKGROUND

The tumor necrosis factor receptor (TNFR) superfamily represents a growing family of type I transmembrane glycoproteins that are involved in various cellular functions, including proliferation, differentiation and programmed cell death. These proteins share homology for cysteine-rich repeats in the extracellular ligand binding domain and an intracellular death domain. Members of the TNFR superfamily transmit signals through protein-protein interactions, and these signals can lead to the activation of either the caspase and Jun kinase pathways, which promote cell death, or the NFκB pathway, which results in cell survival. The glucocorticoid-induced tumor necrosis factor receptor family-related protein (GITR) is a member of the TNFR superfamily that is preferentially expressed in normal T lymphocytes from thymus, spleen and lymph nodes. GITR shares similarity with Ox40, 4-1BB and CD27 and is thought to inhibit T cell receptor-mediated cell death through the activation of the NFκB signaling pathway.

REFERENCES

1. Gruss, H.J. 1996. Molecular, structural, and biological characteristics of the tumor necrosis factor ligand superfamily. Int. J. Clin. Lab. Res. 26: 143-159.
2. Gruss, H.J., Duyster, J. and Herrmann, F. 1996. Structural and biological features of the TNF receptor and TNF ligand superfamilies: interactive signals in the pathobiology of Hodgkin's disease. Ann. Oncol. 7: 19-26.
3. Nocentini, G., Giunchi, L., Ronchetti, S., Krausz, L.T., Bartoli, A., Moraca, R., Migliorati, G. and Riccardi, C. 1997. A new member of the tumor necrosis factor/nerve growth factor receptor family inhibits T cell receptor-induced apoptosis. Proc. Natl. Acad. Sci. USA 94: 6216-6221.
4. Baker, S.J. and Reddy, E.P. 1998. Modulation of life and death by the TNF receptor superfamily. Oncogene 17: 3261-3270.
5. Gurney, A.L., Marsters, S.A., Huang, R.M., Pitti, R.M., Mark, D.T., Baldwin, D.T., Gray, A.M., Dowd, A.D., Brush, A.D., Heldens, A.D., Schow, A.D., Goddard, A.D., Wood, W.I., Baker, K.P., Godowski, P.J. and Ashkenazi, A. 1999. Identification of a new member of the tumor necrosis factor family and its receptor, a human ortholog of mouse GITR. Curr. Biol. 9: 215-218.
6. Riccardi, C., Cifone, M.G. and Migliorati, G. 1999. Glucocorticoid hormone-induced modulation of gene expression and regulation of T cell death: role of GITR and GILZ, two dexamethasone-induced genes. Cell Death Differ. 6: 1182-1189.
7. Nocentini, G., Bartoli, A., Ronchetti, S., Giunchi, L., Cupelli, A., Delfino, D., Migliorati, G. and Riccardi, C. 2000. Gene structure and chromosomal assignment of mouse GITR, a member of the tumor necrosis factor/nerve growth factor receptor family. DNA Cell Biol. 19: 205-217.

CHROMOSOMAL LOCATION

Genetic locus: Tnfrsf18 (mouse) mapping to 4 E2.

SOURCE

GITR (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GITR of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7135 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GITR (M-20) is recommended for detection of GITR of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 GITR siRNA (m): sc-145408, GITR shRNA Plasmid (m): sc-145408-SH and GITR shRNA (m) Lentiviral Particles: sc-145408-V.

Molecular Weight of GITR: 25 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.