

# TRAF7 (D-19): sc-49545

## BACKGROUND

Tumor necrosis factor receptor-associated factor (TRAF) protein family members are critically involved in pathways triggered by tumor necrosis factor (TNF) receptors and Toll/interleukin-1 receptor (TIR)-containing receptors. TRAF7 contains an N-terminal RING and zinc finger domain and localizes to the cytoplasm and nucleus of cells in the M<sub>1</sub> phase. TRAF7 activates IKKs-IκBα and MKK3/6-p38 pathways which stimulate toll-like receptor 2 (TLR2) signaling. TLR2 activates innate immunity, induces development of the acquired immunity, and also leads to the harmful inflammatory responses that can occur with infectious diseases. TRAF7 has E3 ubiquitin ligase activity, and it binds to the DNA-binding domain of the oncogenic c-Myb, via the WD40 repeats, and stimulates its sumoylation. This forces c-Myb to stay in the cytosol rather than the nucleus and thereby inhibits its activity. TRAF7 also stimulates MEKK3-mediated AP1 and CHOP activation and induces apoptosis.

## REFERENCES

- Krajewski, S., Zapata, J.M., Krajewska, M., VanArsdale, T., Shabaik, A., Gascoyne, R.D. and Reed, J.C. 1998. Immunohistochemical analysis of *in vivo* patterns of TRAF3 expression, a member of the TNF receptor-associated factor family. *J. Immunol.* 159: 5841-5852.
- Wajant, H., Henkler, F. and Scheurich, P. 2001. The TNF-receptor-associated factor family: scaffold molecules for cytokine receptors, kinases and their regulators. *Cell. Signal.* 13: 389-400.
- Dahle, Ø., Andersen, T.Ø., Nordgard, O., Matre, V., Del Sal, G. and Gabrielsen, O.S. 2003. Transactivation acceptor sites that are conjugated in a PIASy enhanced manner. *Eur. J. Biochem.* 270: 1338-1348.
- Xu, L.G., Li, L.Y. and Shu, H.B. 2004. TRAF7 potentiates MEKK3-induced AP1 and CHOP activation and induces apoptosis. *J. Biol. Chem.* 279: 17278-17282.
- Blonska, M., Shambharkar, P.B., Kobayashi, M., Zhang, D., Sakurai, H., Su, B. and Lin, X. 2005. TAK1 is recruited to the tumor necrosis factor α (TNFα) receptor 1 complex in a receptor-interacting protein (RIP)-dependent manner and cooperates with MEKK3 leading to NFκB activation. *J. Biol. Chem.* 280: 43056-43063.
- Morita, Y., Kanei-Ishii, C., Nomura, T. and Ishii, S. 2005. TRAF7 sequesters c-Myb to the cytoplasm by stimulating its sumoylation. *Mol. Biol. Cell* 16: 5433-5444.
- Ordway, D., Heno-Tamayo, M., Orme, IM. and Gonzalez-Juarrero, M. 2005. Foamy macrophages within lung granulomas of mice infected with *Mycobacterium tuberculosis* express molecules characteristic of dendritic cells and antiapoptotic markers of the TNF receptor-associated factor family. *J. Immunol.* 175: 3873-3881.

## CHROMOSOMAL LOCATION

Genetic locus: TRAF7 (human) mapping to 16p13.3; Traf7 (mouse) mapping to 17 A3.3.

## SOURCE

TRAF7 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TRAF7 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.

Blocking peptide available for competition studies, sc-49545 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TRAF7 (D-19) is recommended for detection of TRAF7 isoforms 1 and 2 of mouse, rat and human 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).

TRAF7 (D-19) is also recommended for detection of TRAF7 isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TRAF7 siRNA (h): sc-61704, TRAF7 siRNA (m): sc-61705, TRAF7 shRNA Plasmid (h): sc-61704-SH, TRAF7 shRNA Plasmid (m): sc-61705-SH, TRAF7 shRNA (h) Lentiviral Particles: sc-61704-V and TRAF7 shRNA (m) Lentiviral Particles: sc-61705-V.

Molecular Weight of TRAF7: 74.6 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](http://www.scbt.com) or our catalog for detailed protocols and support products.