SANTA CRUZ BIOTECHNOLOGY, INC.

TRAF7 siRNA (h): sc-61704

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_1 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

1. Krajewski, S., et al. 1998. Immunohistochemical analysis of *in vivo* patterns of TRAF3 expression, a member of the TNF receptor-associated factor family. J. Immunol. 159: 5841-5852.
2. Wajant, H., et al. 2001. The TNF-receptor-associated factor family: scaffold molecules for cytokine receptors, kinases and their regulators. Cell. Signal. 13: 389-400.
3. Dahle, O., et al. 2003. Transactivation acceptor sites that are conjugated in a PIASy enhanced manner. Eur. J. Biochem. 270: 1338-1348.
4. Xu, L.G., et al. 2004. TRAF7 potentiates MEKK3-induced AP1 and CHOP activation and induces apoptosis. J. Biol. Chem. 279: 17278-17282.
5. Blonska, M., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: TRAF7 (human) mapping to 16p13.3.

PRODUCT

TRAF7 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TRAF7 shRNA Plasmid (h): sc-61704-SH and TRAF7 shRNA (h) Lentiviral Particles: sc-61704-V as alternate gene silencing products.

For independent verification of TRAF7 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61704A, sc-61704B and sc-61704C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TRAF7 siRNA (h) is recommended for the inhibition of TRAF7 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TRAF7 gene expression knockdown using RT-PCR Primer: TRAF7 (h)-PR: sc-61704-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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