

# TOE1 (D-21): sc-134101

## BACKGROUND

TOE1 (target of Egr-1 protein 1) is a 510 amino acid long protein that belongs to the CAF1 family. It is a downstream target of Egr-1 and plays an important role mediating the inhibitory growth effect of Egr-1. Egr-1 directly binds the TOE1 promoter region and activates its expression. TOE1 induces the expression of TGF $\beta$  and p21 and plays a role in cell cycle regulation and the inhibition of cell growth. The activity and nucleolar localization of TOE1 correlates with a G<sub>2</sub> cell cycle phase delay which is likely due to an increased expression of p21. In addition, TOE1 may function via an interaction with p53 and possible modification to its activity. TOE1 is expressed at various levels in all adult tissues and specifically localizes to the nuclear speckles.

## REFERENCES

1. Adamson, E.D. and Mercola, D. 2002. Egr-1 transcription factor: multiple roles in prostate tumor cell growth and survival. *Tumour Biol.* 23: 93-102.
2. De Belle, I., Wu, J.X., Sperandio, S., Mercola, D. and Adamson, E.D. 2003. *In vivo* cloning and characterization of a new growth suppressor protein TOE1 as a direct target gene of Egr-1. *J. Biol. Chem.* 278: 14306-14312.
3. Farivar, R., Zangenehpour, S. and Chaudhuri, A. 2004. Cellular-resolution activity mapping of the brain using immediate-early gene expression. *Front. Biosci.* 9: 104-109.
4. Will, C.L., Schneider, C., Hossbach, M., Urlaub, H., Rauhut, R., Elbashir, S., Tuschl, T. and Lührmann, R. 2004. The human 18S U11/U12 snRNP contains a set of novel proteins not found in the U2-dependent spliceosome. *RNA* 10: 929-941.
5. Ferraro, B., Bepler, G., Sharma, S., Cantor, A. and Haura, E.B. 2005. Egr-1 predicts PTEN and survival in patients with non-small-cell lung cancer. *J. Clin. Oncol.* 23: 1921-1926.
6. Wagner, E., Clement, S.L. and Lykke-Andersen, J. 2007. An unconventional human CCR4-CAF1 deadenylase complex in nuclear cajal bodies. *Mol. Cell Biol.* 27: 1686-1695.

## CHROMOSOMAL LOCATION

Genetic locus: TOE1 (human) mapping to 1p34.1; Toe1 (mouse) mapping to 4 D1.

## SOURCE

TOE1 (D-21) is an affinity purified rabbit polyclonal antibody raised against synthetic TOE1 peptide of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG in 500  $\mu$ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

TOE1 (D-21) is recommended for detection of TOE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TOE1 siRNA (h): sc-88412, TOE1 siRNA (m): sc-106625, TOE1 shRNA Plasmid (h): sc-88412-SH, TOE1 shRNA Plasmid (m): sc-106625-SH, TOE1 shRNA (h) Lentiviral Particles: sc-88412-V and TOE1 shRNA (m) Lentiviral Particles: sc-106625-V.

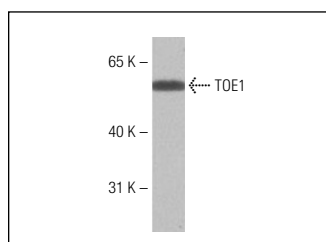
Molecular Weight of TOE1: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



TOE1 (D-21): sc-134101. Western blot analysis of TOE1 expression in human fetal brain tissue extract.

## 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.