

TELO2 (F-15): sc-138067



The Power to Question

BACKGROUND

TELO2 (telomere maintenance 2), also known as CLK2 or TEL2, is an 837 amino acid protein that is expressed in the cytoplasm and the nucleus. Belonging to the TEL2 family, TELO2 may be involved in telomere length and growth regulation. Cells overexpressing TELO2 are hypersensitive to hydroxyurea (HU) and undergo apoptotic death in response to HU treatment. TELO2 functions as an S-phase checkpoint protein in the cell cycle and is required for survival of replication fork arrest. Considered a highly conserved regulator of PIKKs (phosphatidylinositol 3-kinase-related protein kinases), which include SMG1, TELO2 may be essential in embryonic development and may also play a role in DNA repair. The gene encoding TELO2 is located on human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Takai, H., Wang, R.C., Takai, K.K., Yang, H. and de Lange, T. 2007. TEL2 regulates the stability of PI3K-related protein kinases. *Cell* 131: 1248-1259.
2. Kanoh, J. and Yanagida, M. 2007. TEL2: a common partner of PIK-related kinases and a link between DNA checkpoint and nutritional response? *Genes Cells* 12: 1301-1304.
3. Shikata, M., Ishikawa, F. and Kanoh, J. 2007. TEL2 is required for activation of the Mrc1-mediated replication checkpoint. *J. Biol. Chem.* 282: 5346-5355.
4. Seidel, J.J., Anderson, C.M. and Blackburn, E.H. 2008. A novel TEL1/ATM N-terminal motif, TAN, is essential for telomere length maintenance and a DNA damage response. *Mol. Cell. Biol.* 28: 5736-5746.
5. Onitake, Y., Hiyama, E., Kamei, N., Yamaoka, H., Sueda, T. and Hiyama, K. 2009. Telomere biology in neuroblastoma: telomere binding proteins and alternative strengthening of telomeres. *J. Pediatr. Surg.* 44: 2258-2266.
6. Ueno, M. 2010. Roles of DNA repair proteins in telomere maintenance. *Biosci. Biotechnol. Biochem.* 74: 1-6.
7. Pennarun, G., Hoffschir, F., Revaud, D., Granotier, C., Gauthier, L.R., Mailliet, P., Biard, D.S. and Boussin, F.D. 2010. ATR contributes to telomere maintenance in human cells. *Nucleic Acids Res.* 38: 2955-2963.

CHROMOSOMAL LOCATION

Genetic locus: TELO2 (human) mapping to 16p13.3; Telo2 (mouse) mapping to 17 A3.3.

SOURCE

TELO2 (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TELO2 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-138067 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TELO2 (F-15) is recommended for detection of TELO2 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).

TELO2 (F-15) is also recommended for detection of TELO2 in additional species, including canine and porcine.

Suitable for use as control antibody for TELO2 siRNA (h): sc-93308, TELO2 siRNA (m): sc-154186, TELO2 shRNA Plasmid (h): sc-93308-SH, TELO2 shRNA Plasmid (m): sc-154186-SH, TELO2 shRNA (h) Lentiviral Particles: sc-93308-V and TELO2 shRNA (m) Lentiviral Particles: sc-154186-V.

Molecular Weight of TELO2: 92 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.