

# TRF4 (P-17): sc-107307

## BACKGROUND

DNA replication, recombination and repair, all of which are necessary for genomic stability, require the presence of exonucleases. In DNA replication, these enzymes are involved in the processing of Okazaki fragments, whereas in DNA repair, they function to excise damaged DNA fragments and correct recombinational mismatches. These exonucleases include the family of DNA polymerases. TRF4 (topoisomerase-related function protein 4-1), also known as POLS (polymerase  $\sigma$ ), POLK (polymerase  $\kappa$ ) or LAK-1, is a member of the Y-family of translesion DNA polymerases and is involved in DNA replication and repair. In addition, TRF4 may be involved in the cohesion of sister chromatids in association with the replication fork. Once replicated, sister chromatids must be held together until anaphase to ensure accurate chromosome segregation.

## REFERENCES

- Walowsky, C., et al. 1999. The topoisomerase-related function gene TRF4 affects cellular sensitivity to the antitumor agent camptothecin. *J. Biol. Chem.* 274: 7302-7308.
- Wang, Z., et al. 2000. Pol  $\kappa$ : A DNA polymerase required for sister chromatid cohesion. *Science* 289: 774-779.
- Carson, D.R., et al. 2001. Evidence that replication fork components catalyze establishment of cohesion between sister chromatids. *Proc. Natl. Acad. Sci. USA* 98: 8270-8275.
- Hubscher, U., et al. 2002. Eukaryotic DNA polymerases. *Annu. Rev. Biochem.* 71: 133-163.
- Wang, Z., et al. 2002. Replication-related activities establish cohesion between sister chromatids. *Cell Biochem. Biophys.* 35: 289-301.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605198. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PAPD7 (human) mapping to 5p15.31; Papd7 (mouse) mapping to 13 C1.

## SOURCE

TRF4 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRF4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107307 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-107307 X, 200  $\mu$ g/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

TRF4 (P-17) is recommended for detection of TRF4 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)], 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).

TRF4 (P-17) is also recommended for detection of TRF4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TRF4 siRNA (h): sc-91936, TRF4 siRNA (m): sc-154635, TRF4 shRNA Plasmid (h): sc-91936-SH, TRF4 shRNA Plasmid (m): sc-154635-SH, TRF4 shRNA (h) Lentiviral Particles: sc-91936-V and TRF4 shRNA (m) Lentiviral Particles: sc-154635-V.

TRF4 (P-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

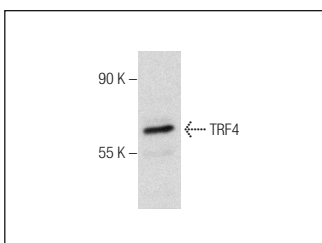
Molecular Weight of TRF4: 60 kDa.

Positive Controls: MDA-MB-468 cell lysate: sc-2282.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



TRF4 (P-17): sc-107307. Western blot analysis of TRF4 expression in MDA-MB-468 whole cell lysate.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.