

# TLF (N-15): sc-10102

## BACKGROUND

The TATA box-binding protein (TBP) is an essential component of the basal transcriptional machinery. TBP and the various RNA polymerase subunits are assembled with unique TBP-associated factors (TAFs) into distinct complexes that act specifically with either RNA polymerase I (SL1/TIF-IB), RNA polymerase II (TFIID), or RNA polymerase III (TFIIIB) on cognate promoters. TLF (also called TBP-related factor 2 [TRF2]) activates a number of different genes, including the neurofibromatosis type 1 (NF1) gene. TLF is related in sequence and structure to TBP and the *Drosophila* TBP-related factor TRF1. TLF functions as gene-specific factor for RNA polymerase II-mediated transcription, but unlike TBP, TLF does not appear to be universal binding factor of other RNA polymerase complexes. TLF preferentially binds to and forms a stable complex with TFIIA. TFIIA is required as a core promoter selective factor for both basal and activated TFIID-mediated transcription as it enhances TBP/TFIID binding to DNA and alleviates TFIID repression that is mediated by negative cofactors.

## REFERENCES

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2. Orphanides, G., et al. 1996. The general transcription factors of RNA polymerase II. *Genes Dev.* 10: 2657-2683.
3. Lee, T.I., et al. 1998. Regulation of gene expression by TBP-associated proteins. *Genes Dev.* 12: 1398-1408.
4. Ozer, J., et al. 1998. Transcription factor IIA derepresses TATA-binding protein (TBP)-associated factor inhibition of TBP-DNA binding. *J. Biol. Chem.* 273: 14293-14300.
5. Rabenstein, M.D., et al. 1999. TATA box-binding protein (TBP)-related factor 2 (TRF2), a third member of the TBP family. *Proc. Natl. Acad. Sci. USA* 96: 4791-4796.
6. Maldonado, E. 1999. Transcriptional functions of a new mammalian TATA-binding protein-related factor. *J. Biol. Chem.* 274: 12963-12966.
7. Teichmann, M., et al. 1999. Human TATA-binding protein-related factor-2 (hTRF2) stably associates with hTFIIA in HeLa cells. *Proc. Natl. Acad. Sci. USA* 96: 13720-13725.
8. Ozer, J., et al. 2000. A testis-specific transcription factor IIA (TFIIAtau) stimulates TATA-binding protein-DNA binding and transcription activation. *J. Biol. Chem.* 275: 122-128.

## CHROMOSOMAL LOCATION

Genetic locus: TBPL1 (human) mapping to 6q22.1-q22.3; Tbp1 (mouse) mapping to 10 A3.

## SOURCE

TLF (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TLF of human origin.

## RESEARCH USE

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

## 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-10102 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TLF (N-15) is recommended for detection of TLF 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).

Suitable for use as control antibody for TLF siRNA (h): sc-44158, TLF siRNA (m): sc-154293, TLF shRNA Plasmid (h): sc-44158-SH, TLF shRNA Plasmid (m): sc-154293-SH, TLF shRNA (h) Lentiviral Particles: sc-44158-V and TLF shRNA (m) Lentiviral Particles: sc-154293-V.

Molecular Weight of TLF: 23 kDa.

Positive Controls: F9 cell lysate: sc-2245 or rat testis extract: sc-2400.

## 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.

## PROTOCOLS

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