

# Tns4 (3B8): sc-517073

## BACKGROUND

The Tensin (Tns) family of proteins is involved in the maintenance of cellular structure by anchoring Actin filaments at the focal adhesion via F-Actin binding and capping activities. Tns proteins contain a Src homology 2 (SH2) domain and have the ability to be phosphorylated, suggesting an additional role in signal transduction cascades. These diverse characteristics indicate that Tns proteins may be important links between the cytoskeleton and signal transduction pathways. Tns4 (tensin 4), also known as CTEN, is a 715 amino acid protein that localizes to focal adhesions and contains one SH2 domain and one phosphatase tensin-type domain. Expressed in placenta and prostate, Tns4 binds to Actin filaments and is thought to be involved in cartilage development, cell migration and apoptosis, and may also play a role in linking signal transduction pathways to the cytoskeleton. Tns4 is subject to post-translational phosphorylation and is down-regulated in prostate cancer cells, suggesting a role in tumor suppression.

## REFERENCES

1. Bockholt, S.M. and Burridge, K. 1993. Cell spreading on extracellular matrix proteins induces tyrosine phosphorylation of tensin. *J. Biol. Chem.* 268: 14565-14567.
2. Lo, S.H., et al. 1994. Tensin: a potential link between the cytoskeleton and signal transduction. *Bioessays* 16: 817-823.
3. Lo, S.H., et al. 1994. Interactions of tensin with actin and identification of its three distinct actin-binding domains. *J. Cell Biol.* 125: 1067-1075.
4. Lo, S.H. and Lo, T.B. 2002. Cten, a COOH-terminal tensin-like protein with prostate restricted expression, is down-regulated in prostate cancer. *Cancer Res.* 62: 4217-4221.
5. Sasaki, H., et al. 2003. Cten mRNA expression was correlated with tumor progression in lung cancers. *Lung Cancer* 40: 151-155.
6. Sasaki, H., et al. 2003. Cten mRNA expression is correlated with tumor progression in thymoma. *Tumour Biol.* 24: 271-274.
7. Lo, S.S., et al. 2005. Cleavage of cten by caspase-3 during apoptosis. *Oncogene* 24: 4311-4314.
8. Mouneimne, G. and Brugge, J.S. 2007. Tensins: a new switch in cell migration. *Dev. Cell* 13: 317-319.
9. Sakashita, K., et al. 2008. Prognostic relevance of Tensin4 expression in human gastric cancer. *Ann. Surg. Oncol.* 15: 2606-2613.

## CHROMOSOMAL LOCATION

Genetic locus: TNS4 (human) mapping to 17q21.2.

## SOURCE

Tns4 (3B8) is a mouse monoclonal antibody raised against amino acids 1-480 representing full length Tns4 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Tns4 (3B8) is recommended for detection of Tns4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for Tns4 siRNA (h): sc-76705, Tns4 shRNA Plasmid (h): sc-76705-SH and Tns4 shRNA (h) Lentiviral Particles: sc-76705-V.

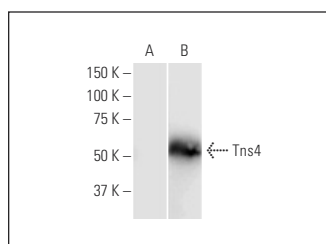
Molecular Weight of Tns4: 90 kDa.

Positive Controls: Tns4 transfected 293T whole cell lysate.

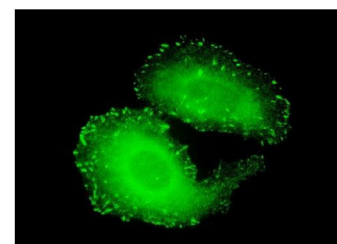
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Tns4 (3B8): sc-517073. Western blot analysis of Tns4 expression in non-transfected (A) and Tns4 transfected (B) 293T whole cell lysates.



Tns4 (3B8): sc-517073. Immunofluorescence staining of methanol-fixed HeLa cells showing focal adhesions and membrane localization.

## 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](http://www.scbt.com) for detailed protocols and support products.