SANTA CRUZ BIOTECHNOLOGY, INC.

TOX (N-18): sc-98180

BACKGROUND

TOX (thymocyte selection-associated high mobility group (HMG) box protein) is a 526 amino acid nuclear protein that is a member of the HMG box family of DNA-binding proteins and likely plays a role in the regulation of T-cell development. Expression of TOX is upregulated by pre-T cell receptor (pre-TCR) and TCR activation in immature thymocytes, but not by TCR activation in mature thymocytes. CD4 T cells fail to develop in TOX-deficient mice, however functional $CD8^+$ T cells still develop, suggesting that TOX-dependent transition to the $CD4^+CD8$ stage is required for development of class II major histocompatibility complex-specific T cells. Calcineurin activation events and CD8 lineage commitment seem to be linked due to evidence that up-regulation of TOX in double positive thymocytes is calcineurin dependent.

REFERENCES

1. Saito, T., et al. 1998. Positive and negative thymocyte selection. Crit. Rev. Immunol. 18: 359-370.
2. Mitnacht, R., et al. 1998. Opposite CD4/CD8 lineage decisions of $CD4^+8^+$ mouse and rat thymocytes to equivalent triggering signals: correlation with thymic expression of a truncated CD8 α chain in mice but not rats. J. Immunol. 160: 700-707.
3. Wilkinson, B., et al. 2002. TOX: an HMG box protein implicated in the regulation of thymocyte selection. Nat. Immunol. 3: 272-280.
4. Aliahmad, P., et al. 2004. TOX provides a link between calcineurin activation and CD8 lineage commitment. J. Exp. Med. 199: 1089-1099.
5. Laky, K., et al. 2005. Receptor signals and nuclear events in CD4 and CD8 T cell lineage commitment. Curr. Opin. Immunol. 17: 116-121.
6. Aliahmad, P., et al. 2006. Commitment issues: linking positive selection signals and lineage diversification in the thymus. Immunol. Rev. 209: 253-273.
7. Laky, K., et al. 2006. TCR and notch signaling in CD4 and CD8 T-cell development. Immunol. Rev. 209: 274-283.

CHROMOSOMAL LOCATION

Genetic locus: TOX (human) mapping to 8q12.1; Tox (mouse) mapping to 4 A1.

SOURCE

TOX (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TOX 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-98180 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TOX (N-18) is recommended for detection of TOX of mouse, rat and 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).

TOX (N-18) is also recommended for detection of TOX in additional species, including equine, canine, bovine, porcine and avian.

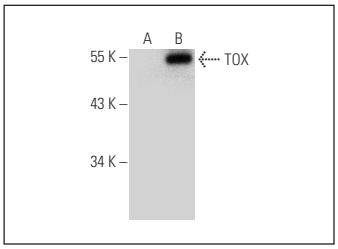
Suitable for use as control antibody for TOX siRNA (h): sc-77552, TOX siRNA (m): sc-154562, TOX shRNA Plasmid (h): sc-77552-SH, TOX shRNA Plasmid (m): sc-154562-SH, TOX shRNA (h) Lentiviral Particles: sc-77552-V and TOX shRNA (m) Lentiviral Particles: sc-154562-V.

Molecular Weight (predicted) of TOX: 58 kDa.

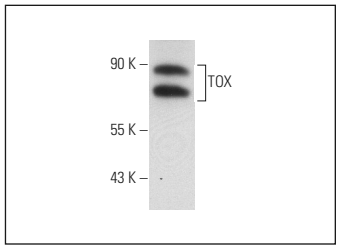
Molecular Weight (observed) of TOX: 58-70 kDa.

Positive Controls: TOX (m): 293T Lysate: sc-126147 or Jurkat nuclear extract: sc-2132.

DATA



TOX (N-18): sc-98180. Western blot analysis of TOX expression in non-transfected: sc-117752 (**A**) and mouse TOX transfected: sc-126147 (**B**) 293T whole cell lysates.



TOX (N-18): sc-98180. Western blot analysis of TOX expression in Jurkat nuclear extract.

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.