

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TSG in direct ELISAs and Western blots.
Source	Monoclonal Rat IgG _{2A} Clone # 120024
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse TSG Met1-Phe222 Accession # Q9EP52
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

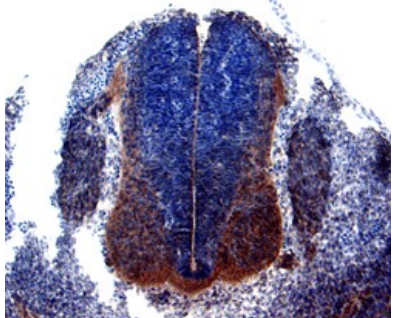
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse TSG (Catalog # 756-TG)
Immunohistochemistry	8-25 µg/mL	See Below

DATA

Immunohistochemistry



TSG in Mouse Embryonic Spinal Cord. TSG was detected in immersion fixed frozen sections of mouse embryonic spinal cord using 25 µg/mL Rat Anti-Mouse TSG Biotinylated Monoclonal Antibody (Catalog # BAM756) overnight at 4 °C. Tissue was stained with the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS017) and counterstained with hematoxylin (blue). Specific labeling was localized to the mantle layer of the neural tube. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Twisted Gastrulation (TSG) is a secreted, cysteine-rich protein that plays a role in dorsal/ventral patterning by regulating BMP signaling in *Drosophila* and *Xenopus*. TSG was originally identified in *Drosophila melanogaster* and shown to be required for the differentiation of the dorsal amnioserosa cells. Vertebrate TSGs were subsequently cloned in mouse, human, zebrafish and frog. Mouse TSG encodes a 222 amino acid (aa) residue precursor protein with a 24 aa residue putative signal peptide that is cleaved to generate the 198 aa residue mature protein. Studies of expression and function of Twisted Gastrulation have been performed in *Drosophila* and *Xenopus*. *Xenopus* TSG is expressed in the ventral regions of the embryo during gastrulation, mimicking the BMP-4 expression pattern. dTSG is expressed in dorsal cells of the blastoderm embryo, where there are also high levels of activity of Dpp and Screw. *In vivo*, TSG acts as an agonist for BMP signaling by modulating the inhibitory actions of the BMP antagonist, Chordin/Sog and the cleavage properties of the metalloprotease, xolloid/tolloid. The N-terminal domain of TSG can bind BMP protein directly *in vitro* and shows BMP antagonist activity.

References:

1. Mason, *et al.* (1994) *Genes Dev.* **8**:1489.
2. Oelgeschlager, *et al.* (2000) *Nature* **405**:757.
3. Yu, *et al.* (2000) *Development* **127**:2143.
4. Dale (2000) *Current Biology* **10**:R671.