

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Tsukushi/TSK in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant mouse TSK is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Tsukushi/TSK Thr17-Leu353 Accession # Q8WUA8
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

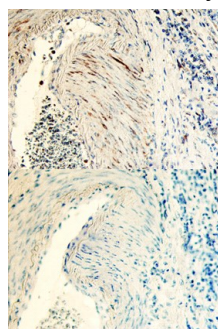
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



Tsukushi/TSK in Human Colon Cancer Tissue.
Tsukushi/TSK was detected in immersion fixed paraffin-embedded sections of human colon cancer tissue using Goat Anti-Human Tsukushi/TSK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3940) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling when primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. Specific staining was localized to smooth muscle. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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

TSK, also known as Tsukushi, is an atypical member of the small leucine-rich proteoglycan (SLRP) family of extracellular matrix proteins (1, 2). All contain leucine-rich repeats (LRR) flanked by conserved cysteines, but the C-terminus of TSK resembles the structure of nectin and chondroadherin rather than class I-III SLRPs (1). The human TSK cDNA encodes a 16 amino acid (aa) signal sequence and a 337 aa secreted (presumably glycosylated) protein that contains nine LRR (2). Proteoglycan modification of TSK has not been shown. SLRP-like activity or expression of TSK has been identified in several contexts. TSK mRNA is upregulated by estrogen treatment in breast cancer cell lines, and so is proposed to be involved in hormonally regulated extracellular matrix remodeling (2). TSK is upregulated along with bone markers in Vitamin K2-treated osteosarcoma cell lines, mediated by the pregnane X receptor, PXR (3). TSK was also shown to contribute to vitamin K2-mediated enhancement of collagen accumulation. Other SLRPs have been shown to form a protective coat around collagen fibrils, shielding them from proteolysis (4). In rats, expression of TSK in liver, intestines and islets of Langerhans resembles the pattern of Glut2 (5). TSK transcription is upregulated by both estrogen and insulin in hepatocytes. In *Xenopus* and chick embryos, TSK is expressed in the middle primitive streak, where it binds and antagonizes BMP-4 and promotes dorsalization and formation of the neural crest and the primitive organizer (6, 7). *Xenopus* TSK also binds the extracellular region of delta-1, modulating Notch activity (7). Human TSK shows 87%, 86%, 86%, 85%, 52% and 50% aa identity with canine, mouse, rat, bovine, chick, and *Xenopus* TSK, respectively, with the highest identity in the first four LRR.

References:

1. McEwan, P.A. *et al.* (2006) *J. Struct. Biol.* **155**:294.
2. Charpentier, A.H. *et al.* (2000) *Cancer Res.* **60**:5977.
3. Ichikawa, T. *et al.* 2006, *J. Biol. Chem.* **281**:16927.
4. Geng, Y. *et al.* (2006) *Matrix Biol.* **25**:484.
5. Coffy, S. *et al.* (2005) *Biochem. J.* **385**:165.
6. Ohta, K. *et al.* (2004) *Dev. Cell* **7**:347.
7. Kuriyama, S. *et al.* (2006) *Development* **133**:75.