

Thrombospondin 5 (644A8D5): sc-33696

BACKGROUND

Thrombospondin 5 (also designated TSP 5, cartilage oligomeric matrix protein or COMP) is the fifth member of the Thrombospondin family of extracellular matrix proteins. The Thrombospondin family share overall homology, with significant homology in their carboxy terminal globular domains. They all contain type 2 (epidermal growth factor-like) and type 3 (calmodulin-like) repeats in their central domains. The human COMP/TSP 5 gene maps to chromosome 19p13.11. Thrombospondin 5 is expressed in all types of cartilage, tendon and vascular smooth muscle. Its localization in cartilage is developmentally regulated to the chondrocyte territorial and interterritorial matrix. Thrombospondin 5 also binds to Collagen Type I, II and IX in a zinc-dependent manner. Mutations in the COMP/TSP 5 gene are associated with the human genetic disorders pseudoachondroplasia (PSACH) and some types of multiple epiphyseal dysplasia (MED). PSACH and MED are autosomal dominant chondrodysplasias, which cause mild to severe short-limb dwarfism and early-onset osteoarthritis.

REFERENCES

- Hedbom, E., et al. 1992. Cartilage matrix proteins. An acidic oligomeric protein (COMP) detected only in cartilage. *J. Biol. Chem.* 267: 6132-6136.
- Newton, G., et al. 1994. Characterization of human and mouse cartilage oligomeric matrix protein. *Genomics* 24: 435-439.
- Shen, Z., et al. 1995. Distribution and expression of cartilage oligomeric matrix protein and bone sialoprotein show marked changes during rat femoral head development. *Matrix Biol.* 14: 773-781.
- Briggs, M.D., et al. 1995. Pseudoachondroplasia and multiple epiphyseal dysplasia due to mutations in the cartilage oligomeric matrix protein gene. *Nat. Genet.* 10: 330-336.
- Riessen, R., et al. 2001. Cartilage oligomeric matrix protein (Thrombospondin 5) is expressed by human vascular smooth muscle cells. *Arterioscler. Thromb. Vasc. Biol.* 21: 47-54.
- Svensson, L., et al. 2002. Cartilage oligomeric matrix protein-deficient mice have normal skeletal development. *Mol. Cell. Biol.* 22: 4366-4371.
- Briggs, M.D., et al. 2002. Pseudoachondroplasia and multiple epiphyseal dysplasia: mutation review, molecular interactions and genotype to phenotype correlations. *Hum. Mutat.* 19: 465-478.

CHROMOSOMAL LOCATION

Genetic locus: COMP (human) mapping to 19p13.11.

SOURCE

Thrombospondin 5 (644A8D5) is a mouse monoclonal antibody raised against articular cartilage of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

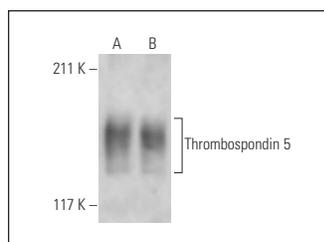
APPLICATIONS

Thrombospondin 5 (644A8D5) is recommended for detection of Thrombospondin 5 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

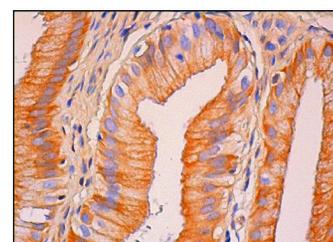
Suitable for use as control antibody for Thrombospondin 5 siRNA (h): sc-43195, Thrombospondin 5 shRNA Plasmid (h): sc-43195-SH and Thrombospondin 5 shRNA (h) Lentiviral Particles: sc-43195-V.

Molecular Weight of glycosylated Thrombospondin 5: 105-120 kDa.

DATA



Thrombospondin 5 (644A8D5): sc-33696. Western blot analysis of human (A) and bovine (B) Thrombospondin 5.



Thrombospondin 5 (644A8D5): sc-33696. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Pan, T.C., et al. 2019. The effects of laser acupuncture on the modulation of cartilage extracellular matrix macromolecules in rats with adjuvant-induced arthritis. *PLoS ONE* 14: e0211341.

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 for detailed protocols and support products.