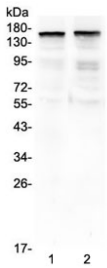
THBS2 Antibody / Thrombospondin 2 (RQ4469)

Catalog No.	Formulation	Size
RQ4469	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P35442
Localization	Cytoplasmic
Applications	Western blot: 0.5-1ug/ml
Limitations	This THBS2 antibody is available for research use only.



Western blot analysis of 1) rat brain and 2) mouse brain tissue lysates using THBS2 antibody. The expected molecular weight for full-length THBS2 is approximately 130 kDa, but literature reports fully glycosylated forms migrating at 140-170 kDa. In this blot, the major band appears near ~160 kDa, consistent with mature glycosylated THBS2. A secondary banding at ~90 kDa corresponds to documented proteolytic fragments described for this extracellular matrix protein.

Description

THBS2 antibody detects Thrombospondin 2, a secreted matricellular glycoprotein that regulates extracellular matrix remodeling, cellular adhesion, angiogenesis, and tissue repair. The UniProt recommended name is Thrombospondin-2. THBS2 belongs to the thrombospondin family of modular extracellular proteins that act as structural organizers and signaling mediators within connective tissues. Unlike matrix components that primarily provide mechanical support, Thrombospondin 2 modulates dynamic cellÃ¢Â€Â“matrix interactions, influencing how cells respond to mechanical,

biochemical, and inflammatory cues in their environment.

Functionally, THBS2 antibody identifies a large, multi-domain glycoprotein of approximately 1172 amino acids that is secreted into the extracellular matrix. Thrombospondin 2 is characterized by several conserved structural motifs, including von Willebrand factor type C modules, thrombospondin type 1 repeats, epidermal growth factor-like regions, and a C-terminal globular domain. These domains allow THBS2 to bind a wide spectrum of extracellular molecules, including collagens, fibronectin, integrins, matrix metalloproteinases, and growth factors. Through these binding interactions, Thrombospondin 2 influences matrix assembly, cell migration, angiogenic balance, and differentiation signals.

The THBS2 gene is located on chromosome 6q27 and is highly expressed in connective tissues, including tendon, cartilage, skin, vascular smooth muscle, and tissues undergoing repair or remodeling. THBS2 expression is regulated by developmental programs, mechanical load, transforming growth factor beta, and inflammatory cytokines. During embryogenesis, Thrombospondin 2 contributes to the structural maturation of skeletal and connective tissues, supporting collagen fibrillogenesis and tissue integrity. In adult tissues, THBS2 continues to modulate extracellular matrix organization and plays an important role in maintaining homeostasis under conditions of mechanical stress or injury.

Thrombospondin 2 serves as a key regulator of angiogenesis. It can limit excessive vessel growth by binding pro-angiogenic factors and reinforcing signals that stabilize existing vasculature. This activity supports proper tissue patterning and prevents uncontrolled vascular expansion during fibrosis, tumor progression, or wound healing. THBS2 also contributes to the resolution phase of tissue repair by influencing fibroblast behavior, extracellular matrix turnover, and macrophage recruitment. Its ability to interact with matrix metalloproteinases allows it to shape proteolytic environments and help maintain balanced extracellular matrix degradation.

Within the immune system, THBS2 affects inflammation through interactions with macrophages and other stromal cells. It can modulate cytokine responses, matrix stiffness, and the availability of bioactive growth factors. These functions allow Thrombospondin 2 to act as a link between structural tissue changes and inflammatory signaling. In musculoskeletal tissues, it supports tendon resilience, joint integrity, and adaptive responses to loading by regulating collagen organization and tissue remodeling pathways.

Pathologically, altered THBS2 expression is associated with several disorders involving extracellular matrix dysregulation. Reduced Thrombospondin 2 levels can lead to deficiencies in collagen fiber organization, increased vascular fragility, or compromised connective tissue integrity. Conversely, excessive THBS2 expression contributes to fibrotic remodeling, scar formation, and stiffened tissue architecture in disorders such as cardiac fibrosis, pulmonary fibrosis, and chronic tendon injury. In vascular disease, abnormal Thrombospondin 2 levels can disrupt normal angiogenic balance, contributing to impaired repair or pathological vessel growth.

In cancer biology, THBS2 has context dependent functions. In many tumors, Thrombospondin 2 acts as a tumor suppressor by restricting angiogenesis and limiting metastatic progression. Its anti-angiogenic activity can reduce tumor vascularization and restrain tumor expansion. However, in some tumor microenvironments, THBS2 may contribute indirectly to matrix reorganization that supports invasion or metastatic niche formation. Because of these diverse roles, Thrombospondin 2 is widely studied in oncology as a biomarker of tumor stroma remodeling and as a potential modulator of tumor progression.

In regenerative biology, THBS2 is increasingly recognized as an important mediator of stem cell niche composition. Its ability to regulate extracellular matrix architecture and growth factor availability makes it relevant to stem cell differentiation, tissue engineering, and repair models. Research interest in THBS2 has expanded to include its participation in mechanotransduction, tendon biology, vascular remodeling, and matrix driven signaling networks that support tissue adaptation and recovery.

THBS2 antibody is validated for use in relevant research applications to detect Thrombospondin 2 expression and examine matrix remodeling, angiogenesis, and tissue repair processes. NSJ Bioreagents provides THBS2 antibody reagents optimized for studies in extracellular matrix biology, development, cardiovascular remodeling, and oncologic

research.

Application Notes

Optimal dilution of the THBS2 antibody should be determined by the researcher.

Immunogen

Amino acids DHVKDTSFDLFSISNINRKTIGAKQFRGPD were used as the immunogen for the THBS2 antibody.

Storage

After reconstitution, the THBS2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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