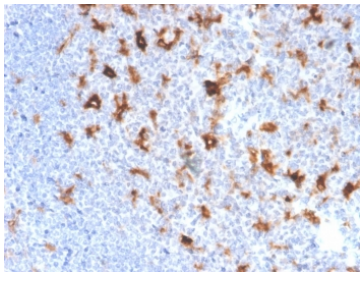
SPARC Antibody / Secreted protein acidic and rich in cysteine / Osteonectin [clone OSTN/3761] (V5796)

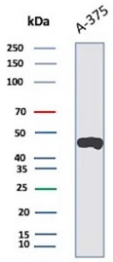
Catalog No.	Formulation	Size
V5796-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5796-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5796SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

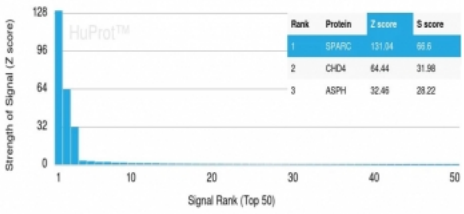
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	OSTN/3761
Purity	Protein G affinity
UniProt	P09486
Localization	Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This SPARC antibody is available for research use only.



Immunohistochemistry analysis of SPARC antibody in human tonsil tissue (clone OSTN/3761). FFPE human tonsil sections show HRP-DAB brown cytoplasmic and extracellular stromal staining in scattered stromal cells and matrix-rich areas, consistent with Secreted protein acidic and rich in cysteine expression in the extracellular matrix. Surrounding lymphoid cells are largely negative, providing contrast against the positive stromal compartment. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to antibody incubation.



Western blot testing of human A375 cell lysate with SPARC antibody (clone OSTN/3761). Expected molecular weight: 35-43 kDa depending on glycosylation level.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using SPARC antibody (clone OSTN/3761). These results demonstrate the foremost specificity of the OSTN/3761 mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.

Description

SPARC antibody, also known as Secreted protein acidic and rich in cysteine antibody, recognizes a matricellular glycoprotein commonly referred to as Osteonectin and Basement membrane protein 40 in the literature. Secreted protein acidic and rich in cysteine is encoded by the human SPARC gene located on chromosome 5q33.1 and is a member of the SPARC family of matricellular proteins. It is primarily a secreted, extracellular matrix-associated protein that localizes to the extracellular space and basement membranes, where it modulates cell-matrix interactions rather than serving as a structural matrix component.

Secreted protein acidic and rich in cysteine functions as a regulator of cell adhesion, migration, proliferation, and tissue remodeling. It is highly expressed in bone, connective tissue, endothelium, and remodeling tissues, and it plays a critical role in collagen binding and extracellular matrix organization. A SPARC antibody is frequently used in research examining tumor microenvironment remodeling, angiogenesis, fibrosis, and wound healing because of the protein's involvement in regulating interactions between stromal cells and extracellular matrix components.

The SPARC protein contains several well-characterized structural domains, including an acidic N-terminal domain, a follistatin-like domain, and a C-terminal extracellular calcium-binding domain with EF-hand motifs. These domains enable SPARC to bind calcium and interact with collagens, albumin, and growth factors. Through these interactions, Secreted protein acidic and rich in cysteine modulates signaling pathways such as TGF-beta signaling, integrin-mediated adhesion pathways, and extracellular matrix remodeling cascades.

SPARC antibody, also referred to as Osteonectin antibody and BM-40 antibody in published studies, is widely used to investigate stromal activation in cancer. Elevated SPARC expression has been reported in multiple tumor types, including breast, pancreatic, colorectal, and ovarian carcinomas, where it is associated with desmoplastic reactions and extracellular matrix deposition. In some contexts, SPARC expression correlates with tumor invasion and metastatic potential, while in others it may exhibit context-dependent tumor-suppressive properties.

Beyond oncology, Secreted protein acidic and rich in cysteine plays important roles in tissue repair and fibrotic disorders. It is upregulated during wound healing and in fibrotic conditions affecting organs such as liver, lung, and kidney. SPARC participates in collagen fibrillogenesis and regulates matrix stiffness, which can influence cell differentiation and immune cell infiltration. In skeletal biology, Osteonectin is abundant in bone matrix and contributes to mineralization processes.

Developmentally, SPARC is expressed during embryogenesis in tissues undergoing active morphogenesis and

extracellular matrix remodeling. It is detected in endothelial cells during vascular development and in mesenchymal lineages that contribute to connective tissue formation. Cell-type specific expression has been observed in fibroblasts, osteoblasts, endothelial cells, and certain epithelial compartments depending on physiological or pathological context.

Clone OSTN/3761 is designed to recognize SPARC in research applications. A SPARC antibody can be used to evaluate extracellular matrix remodeling, stromal composition, and tumor-associated fibroblast activity in a variety of experimental models. This antibody targets SPARC in research applications and supports studies of matrix biology, fibrosis, angiogenesis, and cancer-associated stromal dynamics.

Application Notes

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

Immunogen

A portion of amino acids 1-200 from human SPARC protein was used as the immunogen for the SPARC antibody.

Storage

Aliquot the SPARC antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.