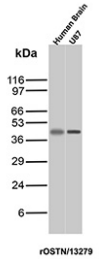
Basement Membrane Protein 40 Antibody / SPARC [clone r15G12] (V6002)

Catalog No.	Formulation	Size
V6002-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6002-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6002SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

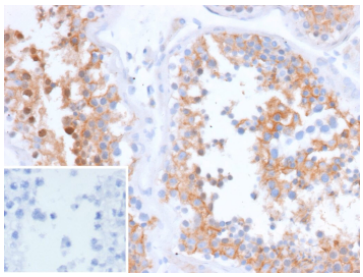
Recombinant MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	r15G12
UniProt	P09486
Localization	Basement membrane, Extracellular matrix, Extracellular space, Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Basement Membrane Protein 40/SPARC antibody is available for research use only.



Western blot analysis of Basement Membrane Protein 40/SPARC antibody (clone r15G12) in human samples. Lysates from human brain tissue and human U87 glioblastoma cells show a distinct immunoreactive band at approximately 40-45 kDa, consistent with the predicted molecular weight of Secreted protein acidic and rich in cysteine. SPARC, also known as BM-40, is a secreted extracellular matrix protein that can exhibit slight mobility shifts on SDS-PAGE due to post-translational modifications such as glycosylation and calcium-binding related conformational properties. The observed band pattern supports detection of SPARC in both neural tissue and glioma-derived cells, consistent with reported extracellular matrix and stromal-associated expression.



Immunohistochemistry analysis of Basement Membrane Protein 40/SPARC antibody in human testis tissue (clone r15G12). FFPE human testis sections show HRP-DAB brown cytoplasmic and extracellular staining within seminiferous tubules, with prominent signal in germ cells and along the surrounding stromal matrix. The staining pattern highlights matrix-associated localization consistent with Secreted protein acidic and rich in cysteine expression. The inset shows PBS used in place of primary antibody as a secondary antibody negative control, demonstrating absence of specific brown staining. Heat induced epitope retrieval was performed in 10 mM Tris with 1 mM EDTA, pH 9.0, by heating tissue sections at 95oC for 45 minutes followed by cooling at room temperature for 20 minutes prior to antibody incubation.

Description

Basement Membrane Protein 40 antibody, also known as SPARC antibody, recognizes Secreted protein acidic and rich in cysteine, a secreted matricellular glycoprotein that regulates extracellular matrix organization and cell-matrix communication. The human SPARC gene is located on chromosome 5q33.1 and encodes a protein widely referred to as Osteonectin and BM-40 in the literature. SPARC is secreted into the extracellular space and associates with basement membranes and stromal matrices, where it modulates cellular adhesion and matrix assembly rather than serving as a structural scaffold.

Secreted protein acidic and rich in cysteine plays a central role in collagen binding, fibrillogenesis, and regulation of cell migration and proliferation. It is highly expressed in connective tissues, bone, endothelial cells, and activated fibroblasts. In skeletal biology, Osteonectin is abundant in osteoblasts and mineralizing bone matrix, contributing to collagen organization and tissue mineralization. A Basement Membrane Protein 40 antibody is commonly used in research examining extracellular matrix remodeling, tumor microenvironment dynamics, angiogenesis, and fibrotic disease because SPARC influences stromal activation and matrix composition.

Structurally, SPARC contains an acidic N-terminal region, a follistatin-like domain, and a C-terminal extracellular calcium-binding domain with EF-hand motifs. These domains enable calcium binding and mediate interactions with collagens, albumin, and growth factors. Through these interactions, Secreted protein acidic and rich in cysteine participates in signaling pathways such as TGF-beta signaling and integrin-mediated adhesion cascades, supporting tissue remodeling and vascular responses.

In cancer biology, SPARC expression is frequently detected in desmoplastic stroma associated with breast, pancreatic, colorectal, and ovarian carcinomas. Expression is often observed in tumor-associated fibroblasts and matrix-rich regions, where SPARC contributes to extracellular matrix reorganization. Depending on tumor context, SPARC may influence invasion, stromal remodeling, and growth factor responsiveness. Outside oncology, SPARC is upregulated during wound healing and in fibrotic conditions affecting liver, lung, and kidney, reflecting its broader role in tissue repair and matrix turnover. During embryonic development, SPARC expression is present in tissues undergoing active morphogenesis and vascular formation.

Clone r15G12 is a recombinant monoclonal antibody developed to recognize SPARC for research applications. A Basement Membrane Protein 40 antibody supports investigation of extracellular matrix biology, stromal cell function, and connective tissue remodeling. This antibody targets SPARC in research settings and is suitable for studies of fibrosis, angiogenesis, skeletal biology, and tumor-associated stromal responses.

Application Notes

1. Optimal dilution of the Basement Membrane Protein 40/SPARC antibody should be determined by the researcher.

2. This Basement Membrane Protein 40 antibody is recombinantly produced by expression in CHO cells.

Immunogen

Prokaryotic recombinant protein corresponding to a portion of the C-terminus of the human Osteonectin molecule was used as the immunogen for the Basement Membrane Protein 40/SPARC antibody.

Storage

Basement Membrane Protein 40/SPARC antibody with sodium azide store at 2 to 8oC; antibody without sodium azide store at -20 to -80oC.