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SPP1 Antibody

Catalog # ASC11685

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P10451
Other Accession	NP_001238759, 352962176
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35423
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SPP1 antibody can be used for detection of SPP1 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	6696
Other Names	Osteopontin, Bone sialoprotein 1, Nephropontin, Secreted phosphoprotein 1, SPP-1, Urinary stone protein, Uropontin, SPP1, BNSP, OPN
Target/Specificity	SPP1; SPP1 antibody is human, mouse and rat reactive. Multiple isoforms of SPP1 are known to exist.
Reconstitution & Storage	SPP1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SPP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SPP1
Synonyms	BNSP, OPN
Function	Major non-collagenous bone protein that binds tightly to hydroxyapatite. Appears to form an integral part of the mineralized matrix. Probably important to cell-matrix interaction.
Cellular Location	Secreted
Tissue Location	Detected in cerebrospinal fluid and urine (at protein level) (PubMed:25326458, PubMed:36213313, PubMed:37453717) Bone. Found in plasma.

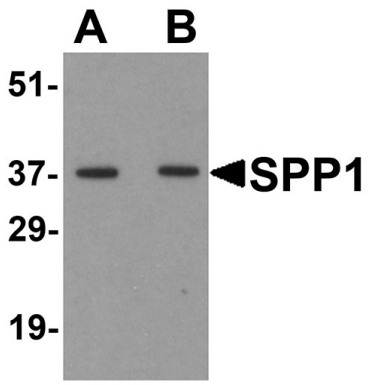
Background

SPP1 Antibody: The secreted protein 1 (SPP1), also known as osteopontin, is a major noncollagenous protein of bone, but is also found in the extracellular matrix of other mineralized tissues and in bodily fluids. In bone, SPP1 is produced by osteoblasts, osteocytes, macrophages, and osteoclasts (1,2). SPP1 binds to cells through integrin and non-integrin receptors, as well as the adhesion receptor CD44 in an RGD-independent manner, enabling SPP1 to induce a number of functional effects including macrophage chemotaxis, cytoprotection, and regulation of T helper type 1 cells (2). SPP1 can regulate biomineralization by inhibiting the formation of hydroxyapatite (3) and the growth of calcium oxalate crystals (4).

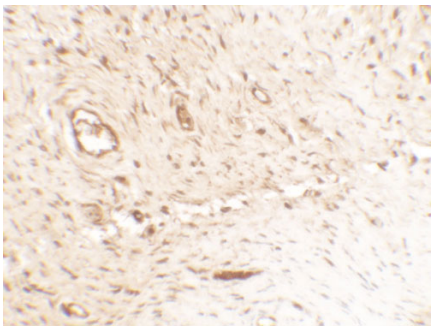
References

Heinegard D, Andersson G, and Reinholt FP. Roles of osteopontin in bone remodeling. Ann. N.Y. Acad. Sci.1995; 760:213-22.
Wang KX and Denhardt DT. Osteopontin: rule in immune regulation and stress responses. Cyto. Growth Factor Rev. 2008; 19:333-45.
Boskey AL, Maresca M, Ullrich W, et al. Osteopontin-hydroxyapatite interactions in vitro: inhibition of hydroxyapatite formation and growth in a gelatin-gel. Bone Miner. 1993; 22:147-159.
Shiraga H, Min W, VanDusen WJ, et al. Inhibition of calcium oxalate crystal growth in vitro by uropontin: another member of the aspartic acid-rich protein superfamily. Proc. Natl. Acad. Sci. USA 1992; 89:426-30.

Images

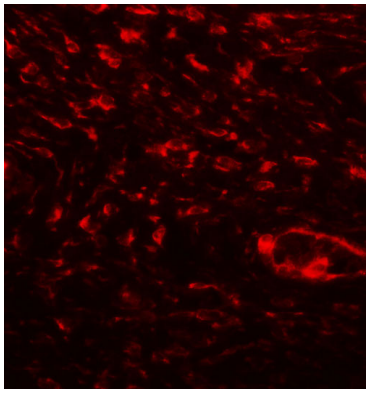


Western blot analysis of SPP1 in human bladder tissue lysate with SPP1 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of SPP1 in human bladder tissue with SPP1 antibody at 5 µg/mL.

Immunofluorescence of SPP1 in human bladder tissue with SPP1 antibody at 20 µg/mL.



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