

Anti-Osteopontin (NT) (Clone 2C5)
Mouse Monoclonal Antibody
Catalog # ABV10968**Specification**

Anti-Osteopontin (NT) (Clone 2C5) - Product Information

Application	WB, E
Primary Accession	P10451
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1k

Anti-Osteopontin (NT) (Clone 2C5) - Additional Information**Gene ID** 6696

Positive Control	Native Human OPN
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Other Names

OPN, BNSP, Bone sialoprotein 1, Nephropontin, Secreted phosphoprotein 1, SPP-1, Urinary stone protein, Uropontin.

Target/Specificity

Osteopontin

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

1 mg/ml in 0.15 M PBS

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

Anti-Osteopontin (NT) (Clone 2C5) is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-Osteopontin (NT) (Clone 2C5) - 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.

Anti-Osteopontin (NT) (Clone 2C5) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Osteopontin (NT) (Clone 2C5) - Images

Anti-Osteopontin (NT) (Clone 2C5) - Background

Human Osteopontin (OPN) is a negatively charged hydrophilic protein of 314 amino acids and is subject to significant post translational modifications (PTM) including phosphorylation and glycosylation. Due to its acidic nature and PTMs, OPN runs anomalously by SDS-PAGE. Although its mass is 35kD, apparent molecular weights may range up to 75kD. In addition, OPN is subject to proteolytic modification into smaller molecular weight fragments. The matricellular protein osteopontin binds to cell surface receptors and is secreted into many body fluids including milk, blood and urine, depending on the organ of origin. This makes osteopontin an ideal candidate for being a biomarker as the secreted form is easily obtained in throwaway fluids, and mimics the cellular environment from which it is released. Osteopontin is important in immune responses and inflammation as well as bone generation and remodeling. In autistic children, serum levels of osteopontin are correlated to the severity of disease, probably due to a brain inflammation pattern in these children. In aortic valve sclerosis and stenosis, increased levels of secreted osteopontin are also noted. Osteopontin has also been suggested as a cancer biomarker, since it is associated with tumor formation, progression and metastasis. In bone and tooth formation osteopontin is known to be a negative regulator of parathyroid hormone-related protein receptor, which induces osteogenesis. Without appropriate levels of osteopontin, bone growth continues unregulated, and leads to specific bone cancers. In short, osteopontin is a strong marker for bone growth, inflammation and certain cancers. The newly exposed SVVYG epitope on the N-terminal fragment has also been shown to participate in cell adhesion.