



Recombinant Human Osteopontin

20211130DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-371S
Size:	10 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	6696
Synonyms:	SPP1; OPN; BNSP; BSPI; ETA-1

Osteopontin is a secreted glycoprotein that functions as a ligand to α v β 3 integrin and possibly other receptors. It binds tightly to hydroxyapatite and can act as a structural component of the extracellular mineralized matrix. Osteopontin is initially secreted as a 298 amino acid protein, which is subject to multiple post-translational modifications including glycosylation, phosphorylation, and specific proteolytic cleavages into various smaller molecular weight fragments. Osteopontin is expressed in a wide range of cells and tissues including osteoblasts, various tumor cell lines, and extrasosseous cells in the inner ear, brain, kidney, deciduum, placenta and odontoblasts. In addition to its involvement in mineralized matrix formation, Osteopontin can also function as a cytokine that stimulates the release of IFN γ and IL-12, while inhibiting the production of IL-10. Recombinant human Osteopontin is a 298 amino acid protein, which, due to glycosylation, migrates at an apparent molecular weight of 60-65 kDa by SDS-PAGE analysis under reducing conditions. Recombinant human Osteopontin has a calculated, theoretical molecular weight of 33.7 kDa.

Sequence

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IPVKQADSGS SEEKQLYNKY PDAVATWLNPF DPSQKQNLLA
PQNAVSSSEET NDFKQETLPS KSNESHDMMD DMDDDDDDDH
VDSQDSIDSN DSDDVDDTDD SHQSDESHHS DESDELVTDF
PTDLPATEVF TPVVPTVDY DGRGDSVYVG LRSKSKKFRF
PDIQYPDATD EDITSHMESE ELNGAYKAIP VAQDLNAPSD
WDSRGKDSYE TSQLDDQSAE THSHKQSRLY KRKANDESNE
HSDVIDSQEL SKVSREFHSH EFHSHEDMLV VDPKSKEEDK
HLKFRISHEL DSASSEVN
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Database References

Protein RefSeq:	NP_001035147
Uniprot ID:	P10451
mRNA RefSeq:	NM_001040058

Product Specifications

Expressed in	HEK 293 cells
Purity	> 97% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	Lyophilized (10mM Sodium Phosphate, pH 7.0)
Length (aa):	298
MW:	60-65 kDa

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 3 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by its ability to enhance cell adhesion of murine B16-F1 cells.