

Osteopontin (OPN) Active Protein | OPN active protein

Active Osteopontin (OPN)

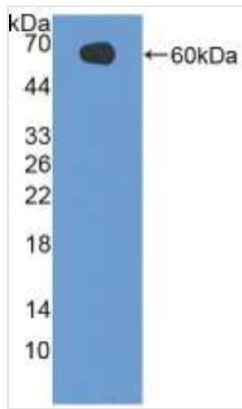
CATALOG # AAA146621	HOST 293 cell	REACTIVITY Homo sapiens (Human)	APPLICATIONS Invitro Assay, Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Osteopontin (OPN); Active Osteopontin (OPN); SPP1; BNSP; BSPI; ETA1; Secreted Phosphoprotein 1; Bone Sialoprotein I; Early T-Lymphocyte Activation 1; Nephropontin; Urinary stone protein; Uropontin; OPN active protein

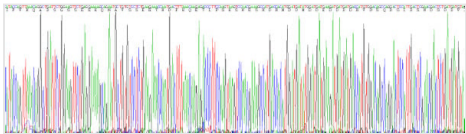
PRODUCT SPECIFICATIONS

Host	293 cell
Reactivity	Homo sapiens (Human)
Purity/Purification	>95%
Form/Format	PBS, pH7.4, containing 5% Trehalose.
Concentration	Original Concentration: 400ug/mL (varies by lot)
Applicable Applications for OPN active protein	Invitro Assay, Activity Assay, Cell Culture
Source	Eukaryotic expression.
Residues	Ile17~Asn287
Tags	N-terminal His-tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method).
Predicted isoelectric point	4.3
Phenomenon explanation	The possible reasons that the actual band size differs from the predicted are as follows: 1. Splice variants: Alternative splicing may create different size proteins from the same gene. 2. Relative charge: The composition of amino acids may affects the charge of the protein. 3. Post-translational modification: Phosphorylation, glycosylation, methylation etc. 4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form. 5. Polymerization of the target protein: Dimerization, multimerization etc.
Usage	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Preparation and Storage	Storage: Avoid repeated freeze/thaw cycles. Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.



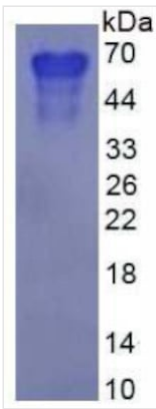
WB (Western Blot)

Western BlotSample: Recombinant OPN, Human;Antibody: Rabbit Anti-Human OPN Ab



Gene Sequencing

Gene Sequencing (Extract)



SDS_PAGE

Sample: Active recombinant OPN, Human

Sample (cell supernatant of MCF-7 cells)	O.D. value	Corrected	Concentration of MCP-1 (ng/mL)
stimulated with OPN (100ng/mL)	0.970	0.922	1.72
stimulated with OPN (200ng/mL)	1.155	1.107	2.11
unstimulated	0.674	0.626	1.11

Table 1. MCP-1 levels in the cell supernatant of MCF-7 cells regulated by OPN

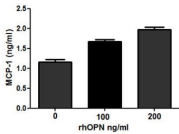


Figure 1. MCP-1 levels in the cell supernatant of MCF-7 cells regulated by OPN.

Bioactivity

Osteopontin (OPN), a multifunctional phosphorylated glycoprotein, plays an important role in neutrophil recruitment and was found to induce the expression of proinflammatory chemokines including MCP-1 and MIP-1Beta which promote migration and recruitment of inflammatory cells. It has been reported that OPN induces MCP-1 expression through the NF-kappa B pathways in MCF-7 breast cancer cell line. Briefly, MCF-7 cells were seeded overnight at a density of 1x10⁵ cells/mL, and treated with or without 200ng/mL OPN for 24h and MCP-1 levels in the cell supernatant were determined by ELISA.Result: MCP-1 levels in the cell supernatant of MCF-7 cells increased significantly after stimulated with OPN, the data was shown in Table 1 and Figure 1.

IPVK QADSGSSEK QNAVSSEETN DFKQETLPK
SNESHDMDD MDEDDDDHV DSQSDIDSND SDDVDDTDDS HQSDESHSD
ESDELVTDFP TDLPAVEFT PVVPTVDTYD GRGDSVVYGL RSKSKKFRFP
DIQYPDATDE DITSHMESEE LNGAYKAIPV AQDLNAPSDH DSRGKDSYET
SQLDDQSAET HSHKQSRLYK RKANDESNEH SDVIDSQELS KVSREFHSHE
FHSHEDMLVV DPKSKEEDKH LKFRISHELD SASSEVN

Sequence

ADDITIONAL INFORMATION

Product Categories/Family for OPN active protein	Active Protein
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4759166
NCBI GeneID	6696
NCBI Accession #	NP_000573.1
NCBI GenBank Nucleotide #	NM_000582.2
UniProt Accession #	P10451; Q15681; Q15682; Q15683; Q4W597; Q567T5; Q8NBK2; Q96IZ1; B2RDA1

Molecular Weight	Predicted Molecular Mass: 32.2kDa Accurate Molecular Mass: 60kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	osteopontin isoform OPN-b
NCBI Official Synonym Full Names	secreted phosphoprotein 1
NCBI Official Symbol	SPP1
NCBI Official Synonym Symbols	OPN; BNSP; BSP1; ETA-1
NCBI Protein Information	osteopontin
UniProt Protein Name	Osteopontin
UniProt Gene Name	SPP1
UniProt Synonym Gene Names	BNSP; OPN; SPP-1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/293-cell-homo-sapiens-human-active-protein/osteopontin-opn/146621>