

OPN (FL-314): sc-20788

BACKGROUND

Osteopontin (OPN, also designated bone sialoprotein 1, urinary stone protein, SPP-1, ETA-1, nephropontin, uropontin) is an extracellular matrix cell adhesion phosphoglycoprotein. OPN is deposited into unmineralized matrix prior to calcification leading to localization at various tissue interfaces including cement lines, lamina limitans and between collagen fibrils of fully matured hard tissues. While OPN is a major product of osteoblasts, it is also synthesized by brain and kidney cells. OPNs isolated from or secreted by various tissues ranges in molecular weight due to post-translational modifications. OPN functions as a substrate for transglutaminase and is involved in cell adhesion, chemoattraction and immunomodulation.

REFERENCES

- Butler, W.T. 1989. The nature and significance of osteopontin. *Connect. Tissue Res.* 23: 123-136.
- Singh, R.P., et al. 1990. Definition of a specific interaction between the early T lymphocyte activation 1 (Eta-1) protein and murine macrophages *in vitro* and its effect upon macrophages *in vivo*. *J. Exp. Med.* 171: 1931-1942.

CHROMOSOMAL LOCATION

Genetic locus: SPP1 (human) mapping to 4q22.1; Spp1 (mouse) mapping to 5 E5.

SOURCE

OPN (FL-314) is a rabbit polyclonal antibody raised against amino acids 1-314 representing full length OPN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

OPN (FL-314) is recommended for detection of OPN of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for OPN siRNA (h): sc-36129, OPN siRNA (m): sc-36130, OPN shRNA Plasmid (h): sc-36129-SH, OPN shRNA Plasmid (m): sc-36130-SH, OPN shRNA (h) Lentiviral Particles: sc-36129-V and OPN shRNA (m) Lentiviral Particles: sc-36130-V.

Molecular Weight of OPN precursor: 66 kDa.

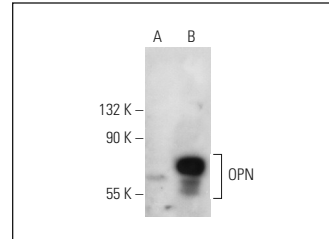
Molecular Weight of OPN cleavage product: 25-55 kDa.

Positive Controls: OPN (h2): 293T Lysate: sc-129309, U-87 MG cell lysate: sc-2411 or CCD-1064Sk cell lysate: sc-2263.

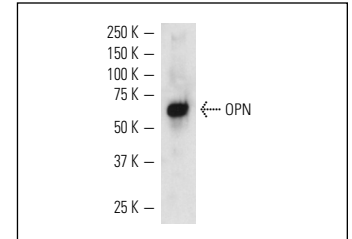
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



OPN (FL-314): sc-20788. Western blot analysis of OPN expression in non-transfected: sc-117752 (A) and human OPN transfected: sc-129309 (B) 293T whole cell lysates.



OPN (FL-314): sc-20788. Western blot analysis of OPN expression in CCD-1064Sk whole cell lysate.

SELECT PRODUCT CITATIONS

- Hong, S.Y., et al. 2010. Activation of RhoA and FAK induces ERK-mediated osteopontin expression in mechanical force-subjected periodontal ligament fibroblasts. *Mol. Cell. Biochem.* 335: 263-272.
- Keller, L., et al. 2011. Tooth engineering: searching for dental mesenchymal cells sources. *Front. Physiol.* 2: 7.
- Yun, J., et al. 2011. Signalling pathway for RKIP and Let-7 regulates and predicts metastatic breast cancer. *EMBO J.* 30: 4500-4514.
- Wu, C.M., et al. 2013. Si-Wu-tang extract stimulates bone formation through PI3K/Akt/NF-κB signaling pathways in osteoblasts. *BMC Complement. Altern. Med.* 13: 277.
- Shen, T., et al. 2013. Positive feedback-loop of telomerase reverse transcriptase and 15-lipoxygenase-2 promotes pulmonary hypertension. *PLoS ONE* 8: e83132.
- Zhang, N., et al. 2014. Hyperoside, a flavonoid compound, inhibits proliferation and stimulates osteogenic differentiation of human osteosarcoma cells. *PLoS ONE* 9: e98973.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **OPN (AKm2A1): sc-21742** or **OPN (LFMb-14): sc-73631**, our highly recommended monoclonal alternatives to OPN (FL-314). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **OPN (AKm2A1): sc-21742**.