

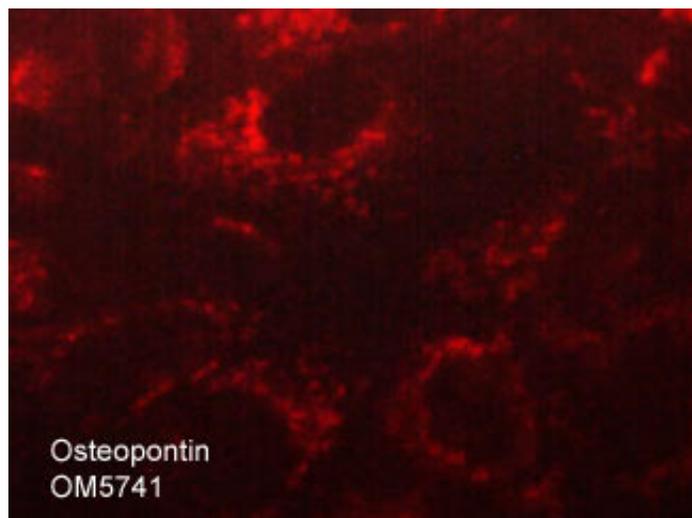
Background

Osteopontin (OPN) is a 34 kDa sialic acid rich member of small integrin-binding ligand N-linked glycoproteins. It is expressed in many different tissues and is post-translationally modified at multiple sites with both glycosylation and phosphorylation. The mature post-translationally modified protein is 60 kDa. OPN is involved with cell survival, proliferation, invasion, and stem like behavior. OPN can interact with CD44, bind hydroxyapatite, and activates many integrins. These interactions are important for OPN function in cell matrix formation. A higher presence of OPN has been found in a variety of cancers, leading to increased tumor growth and metastasis. In addition, OPN is involved in type I immunity through its function as a cytokine where it can enhance production of interferon-gamma and interleukin-12 and reduce production of interleukin-10.

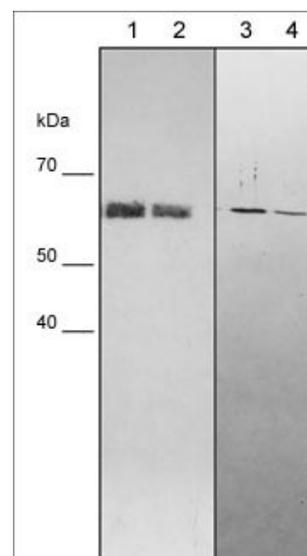
Background References

Sodek, J. et al. (2000) Crit Rev Oral Biol Med. 11(3):279

Shevde, L. et al. (2014) Matrix Biology 37:131



Immunocytochemical labeling of Osteopontin in paraformaldehyde fixed and NP-40 permeabilized MCF-7 cells. The cells were labeled with mouse monoclonal anti-Osteopontin (M574). The antibody was detected using goat anti-mouse DyLight® 594.



Western blot analysis of human recombinant osteopontin protein (lane 1 & 2) or human MDA-MB-231 cells (lane 3 & 4). The blots were probed with mouse monoclonal anti-Osteopontin (OM5741) at a dilution of 1:1000 (lane 1), 1:4000 (lane 2), 1:250 (lane 3), and 1:1000 (lane 4).

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Immunogen**Uniprot ID: P10451**

Clone M574 was generated from a recombinant protein containing amino acid residues in the N-terminal region of human osteopontin. This sequence has high homology with rat and mouse osteopontin.

Buffer and Storage

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications

WB	1:500
ELISA	1:1000
ICC	1:50

Species Reactivity

Hu, Rt, Ms

Isotype: IgG1

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

Clone M574 was purified using Protein G chromatography. The antibody detects a 60 kDa* protein corresponding to the molecular mass of Osteopontin on SDS-PAGE immunoblots of human MDA-MB-231 cells and human full length recombinant Osteopontin protein.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

- IM5811 Integrin β3 (Extracellular region) Mouse Monoclonal
- IM5831 Integrin α2 (Extracellular region) Mouse Monoclonal
- IM5841 Integrin αV (Extracellular region) Mouse Monoclonal
- IP1281 Integrin β4 (Tyr-1494), phospho-specific Rabbit Polyclonal
- IM5821 Integrin β1 (Extracellular region) Mouse Monoclonal

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