Product Information

Anti-Osteopontin Antibody, Mouse Monoclonal

Clone OPN46, Purified from Hybridoma Cell Culture

SAB4200018

Product Description

Monoclonal Anti-Osteopontin (mouse IgG1 isotype) is derived from the hybridoma OPN46 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a fragment of human osteopontin (GeneID: 6696), conjugated to KLH. The corresponding sequence is identical in Osteopontin-a, –b and –c splice variants. It is identical in monkey, but differs by 1 amino acid in bovine, 2 in dog, 3 in mouse, and 4 amino acids in rat. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Osteopontin recognizes human, monkey, dog, rat, and mouse osteopontin. The antibody may be used in several immunochemical techniques including immunoblotting (backbone of ~ 33 kDa and also appears in gels as ~ 60 kDa due to its high acidity).

Detection of the Osteopontin bands by immunoblotting is specifically inhibited with the immunizing peptide.

Osteopontin (OPN) is a secreted, integrin-binding glycophosphoprotein which serves as a cytokine and as an extracellular matrix molecule. It is produced by multiple tissues in the body and is most abundant in bone. It is also produced by cancer cells and plays a determinative role in the growth, progression, and metastasis of cancer.[1] Clinically, OPN has been reported to be upregulated in tumor cells, which is also reflected by increased levels of OPN in the circulation. Interestingly, osteopontin secreted from various cells has diverse structural characteristics, and tumor-derived osteopontin forms are smaller than osteopontin secreted by nontransformed cells.[2,3] Three osteopontin splice variant transcripts have been found to be expressed in invasive, but not in noninvasive breast tumor cell lines.[4]

Osteopontin-b lacks exon 5 and osteopontin-c lacks exon 4. The shortest splice variant, osteopontin-c may support breast tumor progression by conveying anchorage independence and inducing oxidoreductases expression. It was also suggested as a diagnostic and prognostic breast cancer marker.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze at –20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 5-10 µg/mL is recommended using a HepG2 cells extract.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Shevde, L.A., et al., *Curr. Mol. Med*., epub ahead of print (2009).
2. Kon, S., et al., *J. Cell Biochem.,* 77, 487-498 (2000).
3. Kasugai, S., et al., *Bone Miner.,* 13, 235-250 (1991).
4. He, B., et al., *Oncogene.,* 25, 2192-2202 (2006).
5. Mirza, M., et al., *Int. J. Cancer,* 122, 889-897 (2008).

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