

Code No. 18625

**Anti-Human
Osteopontin (O-17) Rabbit IgG Affinity Purify**Volume : 100 µg

Introduction : Osteopontin (OPN) is a secreted glycoprotein that was originally isolated from bone. Its molecular weights have been reported in the range of 66 kDa to 44 kDa depending on glycosylation and phosphorylation. OPN is also known to be expressed in other fluids and tissues including milk, urine, activated T cells, smooth muscle cells, kidney and some tumor cells. OPN contains an Arg-Gly-Asp (RGD) amino acid sequence. This motif is present in fibronectin, vitronectin and a variety of other extra-cellular proteins that bind members of the integrin family of cell surface receptors such as $\alpha v\beta 3$. OPN was also identified as a ligand for CD44, which levels correlate with aggressiveness of lymphoid tumors and invasiveness of bladder carcinoma. Its interaction does not require RGD motif of OPN. In OPN knockout mice, it has been reported that a significantly decreased level of debridement was shown. Although the distribution and expression pattern of OPN in the human body have suggested the multiple function of OPN, its function under different situations remain obscure.

And it is reported the N-terminal OPN fragment cleaved by thrombin (OPN N-Half) binds to $\alpha 4$ or $\alpha 9$ integrin, and the relation with many inflammatory disease is suggested.

Antigen : Synthetic peptide of the N terminal part of human Osteopontin

Purification : Purified with antigen peptide

Form : Lyophilized product from 1 % BSA in PBS containing 0.05 % NaN_3

How to use : 1.0 mL deionized water will be added to the product (the conc. comes up 100 µg /mL)

Stability : Lyophilized product, 5 years at 2 - 8 °C
: Solution, 2 years at -20 °C

Application : This antibody can be used for immunohistochemistry with formalin fixed paraffin embedded tissues after microwave treatment by several techniques such as Avidin Biotin Complex (ABC) Method. The optimal concentration is 1 - 2 µg/mL, however, the concentration should be optimized by each laboratory.
: This antibody can be used for western blotting in concentration of 2 - 5 µg /mL.

Specificity : Reacts to both recombinant and native form human Osteopontin.
Can also detect thrombin digested form of human Osteopontin.
Not cross-react with mouse Osteopontin.

Reference : 1. Kon S, Maeda M, Segawa T, Hagiwara Y, Horikoshi Y, Chikuma S, Tanaka K, Rashid MM, Inobe M, Chambers AF, Uede T. Antibodies to different peptides in osteopontin reveal complexities in the various secreted forms. *J Cell Biochem.* 2000 Apr;77(3):487-98.
2. Kon S, Yokosaki Y, Maeda M, Segawa T, Horikoshi Y, Tsukagoshi H, Rashid MM, Morimoto J, Inobe M, Shijubo N, Chambers AF, Uede T. Mapping of functional epitopes of osteopontin by monoclonal antibodies raised against defined internal sequences. *J Cell Biochem.* 2002;84 (2):420-32.
3. Yokosaki Y, Matsuura N, Sasaki T, Murakami I, Schneider H, Higashiyama S, Saitoh Y, Yamakido M, Taooka Y, Sheppard D. The integrin $\alpha(9)\beta(1)$ binds to a novel recognition sequence (SVVYGLR) in the thrombin-cleaved amino-terminal fragment of osteopontin. *J Biol Chem.* 1999 Dec 17;274 (51):36328-34.

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