

Osteoadherin (S-18): sc-50158

BACKGROUND

Osteoadherin (OSAD) is a bone proteoglycan containing keratan sulfate that belongs to the small leucine-rich proteoglycan (SLRP) family. Osteoadherin is a 49 kDa protein that promotes Integrin $\alpha v\beta 3$ -mediated cell binding. The central region of Osteoadherin consists of eleven B-type, leucine-rich repeats ranging in length from 20 to 30 residues. The full, primary sequence of Osteoadherin contains four putative sites for tyrosine sulfation, three of which are at the N-terminal end of the molecule, six assumed sites for N-linked glycosylation, and a large and very acidic C-terminal domain, which is unique to Osteoadherin. Expression of Osteoadherin is limited to extracellular space and the extracellular matrix, as it is a secreted protein.

REFERENCES

- Sommarin, Y., Wendel, M., Shen, Z., Hellman, U. and Heinegård, D. 1998. Osteoadherin, a cell-binding keratan sulfate proteoglycan in bone, belongs to the family of leucine-rich repeat proteins of the extracellular matrix. *J. Biol. Chem.* 273: 16723-16729.
- Wendel, M., Sommarin, Y. and Heinegård, D. 1998. Bone matrix proteins: isolation and characterization of a novel cell-binding keratan sulfate proteoglycan (Osteoadherin) from bovine bone. *J. Cell Biol.* 141: 839-847.
- Buchaille, R., Couble, M.L., Magloire, H. and Bleicher, F. 2000. Expression of the small leucine-rich proteoglycan Osteoadherin/osteomodulin in human dental pulp and developing rat teeth. *Bone* 27: 265-270.
- Matsushima, N., Ohyanagi, T., Tanaka, T. and Kretsinger, R.H. 2000. Super-motifs and evolution of tandem leucine-rich repeats within the small proteoglycans—Biglycan, Decorin, Lumican, Fibromodulin, PRELP, Keratocan, Osteoadherin, epiphygan, and Osteoglycin. *Proteins* 38: 210-225.
- Shen, Z., Gantcheva, S., Sommarin, Y. and Heinegård, D. 2000. Tissue distribution of a novel cell binding protein, Osteoadherin, in the rat. *Matrix Biol.* 18: 533-542.
- Lucchini, M., Romeas, A., Couble, M.L., Bleicher, F., Magloire, H. and Farges, J.C. 2002. TGF β 1 signaling and stimulation of Osteoadherin in human odontoblasts *in vitro*. *Connect. Tissue Res.* 43: 345-353.
- Ramstad, V.E., Franzen, A., Heinegård, D., Wendel, M. and Reinholt, F.P. 2003. Ultrastructural distribution of Osteoadherin in rat bone shows a pattern similar to that of bone sialoprotein. *Calcif. Tissue Int.* 72: 57-64.
- Lucchini, M., Couble, M.L., Romeas, A., Staquet, M.J., Bleicher, F., Magloire, H. and Farges, J.C. 2004. $\alpha v\beta 3$ Integrin expression in human odontoblasts and co-localization with Osteoadherin. *J. Dent. Res.* 83: 552-556.
- Solberg, L.B., Melhus, G., Brorson, S.H., Wendel, M. and Reinholt, F.P. 2006. Heat from Lowicryl sections of bone. *Micron* 37: 347-354.

CHROMOSOMAL LOCATION

Genetic locus: OMD (human) mapping to 9q22.31; Omd (mouse) mapping to 13 A5.

STORAGE

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

SOURCE

Osteoadherin (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Osteoadherin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-50158 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Osteoadherin (S-18) is recommended for detection of Osteoadherin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Osteoadherin siRNA (h): sc-61265 and Osteoadherin siRNA (m): sc-61266.

Molecular Weight of Osteoadherin: 49 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.