

Product Information

Anti-OSTF1 antibody, Mouse monoclonal
clone OSTF21, purified from hybridoma cell culture

Product Number **SAB4200092**

Product Description

Monoclonal Anti-OSTF1 (mouse IgG2b isotype) is derived from the hybridoma OSTF21 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 OSTF1 (GenelD 26578), conjugated to KLH. The corresponding sequence differs by 1 amino acid in bovine, 2 amino acids in mouse, and 3 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-OSTF1 recognizes human, monkey, bovine, rat, and mouse OSTF1. The product may be used in several immunochemical techniques including immunoblotting (~28 kDa), and immunofluorescence. Staining of the OSTF1 band in immunoblotting and OSTF1 signal in immunofluorescence is specifically inhibited with the immunizing peptide.

The osteoclast (OCL) is the primary bone-resorbing cell responsible for degradation of bone matrix.¹ Factors produced by OCL play an important role in regulating OCL formation and activity.² A novel 28 kDa intracellular protein termed osteoclast-stimulating factor (OSF or OSTF1) is highly expressed in OCL. Indirectly, it enhances OCL formation and bone resorption through a cellular signal transduction cascade by possibly interacting with c-Src or other c-Src-related proteins.

OSF contains a short proline-rich N-terminal region, an SH3 domain, three ankyrin repeats, and an aspartate-rich C-terminal region, suggesting that it is potentially involved in protein-protein interactions.³ Its SH3 domain was found to interact with the 40 kDa spinal muscular atrophy disease determining gene product, survival motor neuron (SMN), to stimulate OCL formation, indicating that OSF SH3-SMN interaction may play an important role in congenital bone fractures associated with type I spinal muscular atrophy disease.⁴

Inhibition of the interaction of the OSF-SH3 domain with its protein partners might lead to reduced bone resorption by OCL and thus prevent the bone loss that is associated with many bone diseases, such as periodontal disease, osteoporosis, estrogen deficiency, Paget's disease, inflammatory bone loss, bone malignancy, and hyperparathyroidism.

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: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses.

Storage/Stability

Store at -20 °C. For continuous use, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. 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 antibody concentration of 0.5-1.0 µg/mL is recommended using NRK cell extracts.

Immunofluorescence: A working antibody concentration of 10-20 µg/mL is recommended using MCF-7 cells.

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

References

1. Roodman, G.D., *Endocr. Rev.*, **17**, 308–332 (1996).
2. Reddy, S.V., and Roodman, G.D., *Crit. Rev. Eukaryot. Gene Expr.*, **8**, 1-17 (1998).
3. Reddy, S. et al., *J. Cell. Physiol.*, **177**, 636-645 (1998).
4. Kurihara, N. et al., *J. Biol. Chem.*, **276**, 41035-41039 (2001).

VS,GG,KAA,PHC,MAM 06/20-1