

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Osteoadherin/OSAD in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human OSAD is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Osteoadherin/OSAD Gln21-Ile423 Accession # O35103
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Osteoadherin/OSAD (Catalog # 3308-AD)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Osteoadherin (OSAD), also known as Osteomodulin, is an extracellular matrix keratan sulfate proteoglycan that belongs to the class II subfamily of small leucine-rich proteoglycans (SLRP). LRR motifs consist of approximately 20-30 amino acids (aa) with conserved leucine spacing, folded into a structure with one β-sheet and one α-helix (1, 2). The mouse OSAD cDNA encodes a 423 aa precursor that contains a 20 aa signal sequence and twelve tandem leucine rich repeats (3). Mouse OSAD shares 75%, 79%, and 91% aa sequence identity with bovine, human, and rat OSAD, respectively. Mouse OSAD shares 32-35% aa sequence identity with mouse class II SLRPs Fibromodulin, Keratocan, Lumican, and PRELP. Bovine, mouse, and rat OSAD are expressed as 60-85 kDa molecules, even though the amino acid sequence for each predicts a size of 46-47 kDa. The primary difference is due to the presence of extensive N-linked glycosylation that can vary between tissues of the same species (4, 5). Human OSAD is expressed as an even larger 110 kDa molecule in teeth (6). OSAD contains eight sulfated tyrosine residues (4, 7) and is distinguished from other class II SLRPs by the presence of an approximately 70 aa C-terminal acidic domain (3). OSAD is expressed by fetal and adult osteoblasts but is not detectable in cartilage or tendon (3, 4, 8). In dental tissue, OSAD is expressed by odontoblasts and ameloblasts (5, 9-11) and is involved in the mineralization of bone and teeth (5, 11,12). OSAD promotes the adhesion of osteoblasts and odontoblasts to the surrounding matrix, an interaction that is mediated by Integrin α_vβ₃ (4, 6).

References:

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