Mouse BMP-5 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6176

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse BMP-5 in direct ELISAs and Western blots. In Western blots, approximately 20% cross-reactivity with recombinant human BMP-5 is observed. In direct ELISAs, approximately 100% cross-reactivity with recombinant human BMP-5 is observed, and approximately 4% cross-reactivity with recombinant mouse (rm) BMP-6 and rmBMP-7 is observed, and less than 1% cross-reactivity with rmBMP-8b is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse BMP-5 Ala315-His452 Accession # P49003
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.

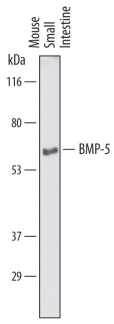
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

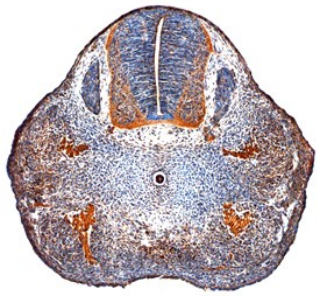
DATA

Western Blot



Detection of Mouse BMP-5 by Western Blot. Western blot shows lysates of mouse small intestine tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Mouse BMP-5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6176) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for BMP-5 at approximately 60 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



BMP-5 in Mouse Embryo. BMP-5 was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Sheep Anti-Human/Mouse BMP-5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6176) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to developing brain and muscle cells. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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.** ● 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.

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BACKGROUND

Bone Morphogenetic Protein-5 (BMP-5) is one of at least 15 structurally and functionally related BMPs which are members of the transforming growth factor β (TGF-β) superfamily (1). BMP-5 is synthesized as a 452 amino acid (aa) precursor protein that is cleaved at the dibasic cleavage site (RxxR) to release the 20 kDa C-terminal mature protein (2, 3). Mature BMP-5 contains seven conserved cysteine residues involved in formation of the cysteine knot and the single interchain disulfide bond. Biologically active BMP-5 is a disulfide-linked homodimer of the C-terminal mature protein. Mature mouse BMP-5 shares 96% and 99% aa sequence identity with human and rat BMP-5, respectively. Cellular responses to BMP-5 are mediated by the formation of hetero-oligomeric complexes of type I and type II serine/threonine kinase receptors (1). BMP-5 is expressed by chondrocytes in proliferating and hypertrophic zones of bone growth plates (4). It contributes to limb development by promoting proliferation and differentiation of chondrocytes as well as apoptosis of undifferentiated mesoderm (4, 5). Genetic defects in BMP-5 which cause C-terminal truncation or loss of the proteolytic cleavage site result in multiple skeletal abnormalities, including the *short ear* phenotype in mice (3, 6). BMP-5 is also expressed by ovarian granulosa cells where it functions as an autocrine factor to promote GC proliferation and inhibit their production of progesterone (7). In the nervous system, BMP-5 promotes dendrite outgrowth and dopaminergic neuronal differentiation (8, 9). It is upregulated in oral squamous carcinoma cells and induces the apoptosis of some myeloma cell lines (10, 11).

References:

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