

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | 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                  |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant mouse BMP-5<br>Ala315-His452<br>Accession # P49003                                                                                                                                                                  |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## 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  $\beta$  (TGF- $\beta$ ) 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).

## PRODUCT SPECIFIC NOTICES

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