

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human BMP-3b/GDF-10 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human (rh) BMP-3 is observed and less than 2% cross-reactivity with rhBMP-2 is observed.                                              |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human BMP-3b/GDF-10<br>Gln369-Arg478<br>Accession # Q5VSQ8                                                                                                                                                                              |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 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

BMP-3b, also known as GDF-10, belongs to the transforming growth factor  $\beta$  (TGF- $\beta$ ) superfamily which includes the TGF- $\beta$ s, bone morphogenetic proteins (BMPs), growth differentiation factors (GDFs), Activins, Inhibins, Leftys, Nodal, Mullerian inhibitory substance (MIS) and the glial cell line-derived neurotrophic factors (GDNFs) (1). TGF- $\beta$  family members are synthesized and secreted as homodimeric or heterodimeric prepropeptides that are cleaved by proprotein convertases such as furin to generate the carboxy-terminal mature dimeric protein that contains the characteristic conserved cysteine residues involved in the formation of the cysteine knot domain. Within pro-BMP-3b, three dibasic cleavage sites have been identified. Mature BMP-3B is a disulfide-linked homodimer of the C-terminal 110 amino acids. Among TGF- $\beta$  family members, BMP-3b is most closely related to BMP-3, sharing 83% and 30% amino acid sequence identity in their mature and pro regions, respectively (2, 3). BMP-3b is highly conserved across animal species, the aa sequence of mature human BMP-3b is 98% identical with that of the mouse or rat proteins (2, 3). BMP-3b is expressed in developing skeletal structures of the craniofacial region and the vertebral column, as well as in the adult trachea, aorta, and most abundantly in the cerebellum and uterus (2-4). Interestingly, in the knock-out mice, no obvious abnormalities have been found in these tissues (4). The biological function of BMP-3b is yet unknown, however studies have implicated it in the differentiation of osteoblasts, augmenting BMP-2 activity (5, 6).

#### PRODUCT SPECIFIC NOTICES

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