

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human BMP-15/GDF-9B in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) BMP-2, rhBMP-3, rhBMP-4, rhBMP-5, rhBMP-6, rhBMP-7, rhBMP-8, and rhBMP-10 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human BMP-15/GDF-9B Gln268-Arg392 Accession # O95972
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 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 Human BMP-15/GDF-9B

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

Bone morphogenetic protein 15 (BMP-15), also known as GDF-9B, is a TGF-β superfamily ligand that is expressed by oocytes throughout folliculogenesis, and plays an important role in oocyte development (1). BMP-15 promotes the FSH-independent proliferation of ovarian granulosa cells (GC) and induces GC glycolysis and cholesterol synthesis (2-4). It also induces GC production of stem cell factor which, in turn, negatively regulates BMP-15 expression in oocytes (5). BMP-15 blocks the FSH-induced GC expression of FSH R and multiple steroidogenic molecules (6). BMP-15 is synthesized with a 249 amino acid (aa) N-terminal propeptide (7). The propeptide is cleaved intracellularly from the 50 kDa proBMP-15 but remains associated with mature BMP-15 (8). Mature BMP-15 exists in 16 kDa and 17 kDa forms which are distinguishable by the presence of O-linked glycosylation on the 17 kDa form (8). Mature BMP-15 is phosphorylated, a modification which is required for the stimulation of GC proliferation (9). BMP-15 exerts its effects through interactions with BMPRI-IB/ALK6 and BMPRII (9-11). Mature BMP-15 forms 34 kDa noncovalently-linked homodimers and 37 kDa heterodimers with mature GDF-9 (12). Both of these oocyte-expressed factors lack the cysteine that mediates disulfide-linked dimerization in most TGF-β superfamily ligands (1). Although heterodimerization with GDF-9 may limit the secretion of active BMP-15, these two factors synergize in promoting oocyte survival and folliculogenesis (12, 13). Mature human BMP-15 shares 70%, 68%, and 78% aa sequence identity with mouse, rat, and sheep BMP-15, respectively. It shares 27%-38% aa sequence with other BMPs.

References:

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PRODUCT SPECIFIC NOTICES

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