

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human BMP-15/GDF-9B in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human BMP-1.1, -2, -3, -3b, -4, -5, -6, -7, -8, or -10 is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 317809
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human BMP-15/GDF-9B Gln268-Arg392 Accession # O95972
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

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

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 BMPR-IB/ALK6 and BMPR-II (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.

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