

DESCRIPTION

Species Reactivity	Human/Mouse/Primate
Specificity	Detects human and primate BMP-9 in ELISAs. In direct ELISAs, no cross-reactivity with recombinant human BMP-1, -1.1, -2, -3, -3b, -4, -5, -6, -7, -8, or -10 is observed. In direct ELISAs, approximately 80% cross-reactivity with recombinant mouse (rm)
Source	Monoclonal Mouse IgG _{2B} Clone # 360107
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human BMP-9 Ser320-Arg429 Accession # Q9UK05
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Neutralization	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

Human BMP-9, also known as growth and differentiation factor 2 (GDF-2), is a member of the BMP subgroup of the TGF-β superfamily proteins that signal through heterodimeric complexes composed of type I and type II BMP receptors. BMP-9 regulates the development and function of a variety of embryonal and adult tissues (1, 2). The human BMP-9 cDNA encodes a 429 amino acid (aa) precursor that includes a 22 aa signal sequence, a 298 aa propeptide, and a 111 aa mature protein (3). Unlike with other BMP family proteins, the propeptide does not interfere with the biological activity of BMP-9 and remains associated with the mature peptide after proteolytic cleavage (4). Human and mouse BMP-9 share 96% aa sequence identity. Within the mature protein, human BMP-9 shares 64% aa sequence identity with human BMP-10 and less than 50% aa sequence identity with other BMPs. BMP-9 is expressed by non-parenchymal cells in the liver, (5, 6) where it promotes lipid metabolism and inhibits glucose production (7). BMP-9 exerts a prolonged hypoglycemic effect which may be due to an enhancement of insulin release (7). BMP-9 interacts with a high affinity specific heteromeric receptor expressed on liver endothelial cells that has been identified as ALK-1 (4-6). In the embryonal CNS, BMP-9 functions in the development and maintenance of the cholinergic neuronal phenotype (8-10). BMP-9 also induces the differentiation of mesenchymal stem cells into the chondrogenic lineage (11, 12). At low concentrations, BMP-9 is a proliferative factor for hematopoietic progenitor cells, but at higher concentrations, it enhances TGF-β1 production and inhibits hematopoietic progenitor colony formation (13).

PRODUCT SPECIFIC NOTICES

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