

Ultra-LEAF™ Purified anti-human BMP9 (GDF2) Antibody

Catalog# / Size	611703 / 100 µg 611704 / 1 mg
Clone	A16035H
Regulatory Status	RUO
Other Names	Bone morphogenetic protein 9 (BMP9), growth differentiation factor 2 (GDF2)
Isotype	Mouse IgG2b, κ
Description	<p>BMP9 was initially isolated from fetal mouse liver cDNA libraries. The human and mouse proteins share 84% identity. They are part of the bone morphogenetic protein (BMP) family of proteins, which are members of the TGF-β superfamily and play a key role in skeletal development, bone formation, and stem cell differentiation. BMP9 is one of the most osteogenic factors of the family. It is synthesized by hepatocytes and intrahepatic biliary epithelial cells and circulates in plasma as an unprocessed inactive form that can be further activated by furin, and as a mature and fully active form as a complex associated to its prodomain. BMPs signal through heterotetrameric complex receptors, which include four type I receptors (ALK1, ALK2, ALK3 and ALK6) and three type II receptors (BMPRII, ActRIIA and ActRIIB). BMP9 and -10 bind to ALK1 (mainly expressed in endothelial cells). BMP9 inhibits the proliferation of endothelial cells induced by basic FGF and the VEGF-stimulated angiogenesis by its binding to ALK1. BMP9 also binds to ALK2 in primary myeloma cells, and this binding can be inhibited by membranous or soluble endoglin (accessory receptor for the TGFβ family). BMP9 activity is inhibited by crossveinless2 (CV2), a member of the chordin family and extracellular regulator. BMP9 induces CV2 expression in endothelial cells and in a negative feedback loop inhibits its own activity by the binding of CV2 to BMP9, and consequently inhibits its binding to ALK1. BMP9 and -10 possess tumor suppressing activity in breast and prostate cancer; BMP9 as well induces apoptosis in primary myeloma cells. In contrast, autocrine BMP9 signaling induces proliferation of ovarian and liver cancer cells.</p>

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Recombinant BMP9
Formulation	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
Preparation	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
Concentration	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
Application	Neut - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by neutralizing activity. The ND ₅₀ is 0.05 - 0.25 µg/mL. It is recommended that the reagent be titrated for optimal performance for each application.
RRID	AB_2728466 (BioLegend Cat. No. 611703) AB_2728467 (BioLegend Cat. No. 611704)

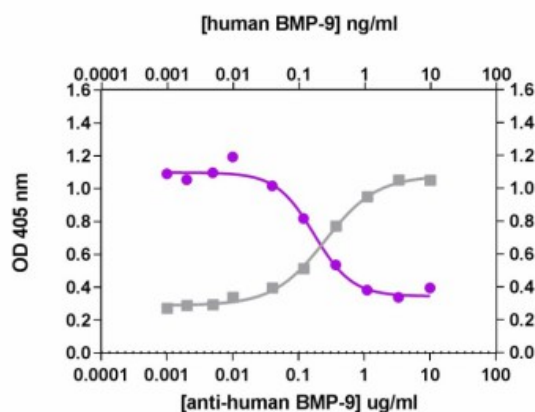
Antigen Details

Structure	Homodimer
Distribution	Hepatocytes, non parenchymal cells of the liver, endothelial, stellate cells, osteosarcoma cells.
Function	Induces osteogenesis, chondrogenesis, differentiation of cholinergic neurons, and regulates glucose metabolism.
Interaction	Endothelial cells, microvascular endothelial cells, prostate cancer cells, ovarian cancer cells, osteosarcoma cells, primary myeloma cells.
Ligand/Receptor	Actin receptor-like kinase- ALK-1 and ALK-5 in endothelial cells; ALK1 and BMPR-II in endothelial cells; ALK-1 and ALK-2 in mesenchymal stem cells; ALK2 and BMPR-II in myoblasts; ALK1 and endoglin in glioblastoma cells. Endoglin (CD105).
Cell Type	Endothelial cells
Molecular Family	Cytokines/Chemokines, Growth Factors
Gene ID	2658

Other Formats

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Product Data



Recombinant human BMP9 (Cat. No. 553102) induces alkaline phosphatase in ATDC5 mouse chondrogenic cell line in a dose dependent manner (black circles). Anti-human BMP9 monoclonal antibody (clone A16035H, purple circles) neutralizes the production of alkaline phosphatase in ATDC5 cells induced by BMP9 (2 ng/mL). The ND₅₀ = 0.05 - 0.25 µg/mL.

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