Datasheet: MCA5635GA

Description:	MOUSE ANTI HUMAN GDF9
Specificity:	GDF9
Other names:	GROWTH DIFFERENTIATION FACTOR 9
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	mAb-GDF9-53
Isotype:	IgG
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin (1)	▪			1/25 - 1/100
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting	▪			1/100 - 1/1000
Functional Assays	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1)**This product requires antigen retrieval using heat treatment prior to staining of paraffin sections.**

Target Species	Human
Species Cross Reactivity	Reacts with: Mouse, Sheep **N.B.** Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN_3)
Approx. Protein	IgG concentration 1.0mg/ml

Concentrations	
Immunogen	Tuberculin coupled synthetic peptide VPAKYSPLSVLTIEPDGSIAYKEYEDMIATKC from near the C-terminal region of mature human GDF9.
External Database Links	**UniProt:** O60383 Related reagents Q07105 Related reagents O77681 Related reagents **Entrez Gene:** 2661 GDF9 Related reagents 14566 Gdf9 Related reagents 100217402 GDF9 Related reagents
Synonyms	Gdf-9
RRID	AB_2111510
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the SP2/0 myeloma cell line.
Specificity	**Mouse anti Human GDF9 antibody, clone mAb-GDF9-53** recognizes an epitope within the highly conserved EPDG sequence of GDF9 (growth differentiation factor 9), a 454 amino acid ~51 kDa pro-protein which is cleaved to form a ~17.5 kDa GDF9 monomer which self associates to form an active homodimeric growth factor, a member of the TGF-beta superfamily, closely related to bone morphogenetic proteins (BMPs). GDF9 is expressed by oocytes, playing a vital role in ovarian folliculogenesis, normal follicle development, and fertility. GDF9 signals through binding to bone morphogenetic protein type II receptor (BMPRII), and apparent subsequent activation of TGF-beta type I receptor, otherwise known as activin receptor-like kinase-5 (ALK-5). Mouse anti Human GDF9 antibody, clone mAb-GDF9-53 recognises GDF9 with high immuno-affinity, and has been shown to neutralize GDF9 biological activity (Gilchrist *et al.* 2004, Dragovic *et al.* 2005). Removal of sodium azide is recommended prior to use in functional assays – Bio-Rad recommend the use of EQU003 for this purpose.
Histology Positive Control Tissue	Human ovary
References	1. Gilchrist RB *et al.* (2004) Immunoneutralization of growth differentiation factor 9 reveals it partially accounts for mouse oocyte mitogenic activity. Biol Reprod. 71 (3): 732-9. 2. Dragovic RA *et al.* (2005) Role of oocyte-secreted growth differentiation factor 9 in the regulation of mouse cumulus expansion. Endocrinology. 146 (6): 2798-806. 3. Simpson, C.M. *et al.* (2012) Activation of Latent Human GDF9 by a Single Residue Change (Gly391Arg) in the Mature Domain. Endocrinology. 153: 1301-10. 4. Watson, L.N. *et al.* (2012) Heparan sulfate proteoglycans regulate responses to oocyte paracrine signals in ovarian follicle morphogenesis. Endocrinology. 153: 4544-55. 5. Li, J.J. *et al.* (2014) Modifications of human growth differentiation factor 9 to improve the

generation of embryos from low competence oocytes. Mol Endocrinol. me20141173.
6. Mottershead, D.G. *et al.* (2008) Characterization of recombinant human growth differentiation factor-9 signaling in ovarian granulosa cells. Mol Cell Endocrinol. 283: 58-67.
7. Pulkki, M.M. *et al.* (2011) The bioactivity of human bone morphogenetic protein-15 is sensitive to C-terminal modification: characterization of the purified untagged processed mature region. Mol Cell Endocrinol. 332: 106-15.

Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos., HRP
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Rabbit Anti Mouse IgG (STAR13...)	HRP
Human Anti Mouse IgG3 (HCA039...)	FITC, HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP
Human Anti Mouse IgG2a (HCA037...)	FITC, HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)
MOUSE IgG2a NEGATIVE CONTROL (MCA929)
MOUSE IgG2b NEGATIVE CONTROL (MCA691)

North & South America Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com
Worldwide Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com
Europe Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

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