

#36966 Store at -20°C

GATA-4 (D3A3M) Rabbit mAb



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IF-IC, FC-FP	H	Endogenous	55	Rabbit IgG	#P43694	2626

Product Usage Information

Application

Western Blotting
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:400
1:400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

GATA-4 (D3A3M) Rabbit mAb recognizes endogenous levels of total GATA-4 protein.

Species predicted to react based on 100% sequence homology:

Mouse, Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human GATA-4 protein.

Background

GATA proteins comprise a group of transcription factors that are related by the presence of conserved zinc finger DNA binding domains, which bind directly to the nucleotide sequence core element GATA (1-3). There are six vertebrate GATA proteins, designated GATA-1 to GATA-6 (3). GATA-4 is crucial for cardiomyocyte differentiation (4), and not surprisingly, mutations in the *GATA-4* gene are implicated in many cardiac diseases, such as tetralogy of Fallot (5), familial and sporadic dilated cardiomyopathy (6,7), and atrial septal defect (8). GATA-4 and GATA-6 together maintain intestinal epithelial structure by regulating enterocyte gene expression (9). They also have overlapping roles in steroidogenesis and genital ridge formation during gonadal development (10). GATA-4 is also a required factor for bone mineralization in osteoblast progenitor cells, where it suppresses TGF-β and activates BMP signaling (11). Research studies have uncovered crosstalk among the transcription factors GATA-4, GATA-6, and KLF5 that promotes gastric cancer development (12). Additional studies describe the role of histone H3K9 hyperacetylation on the GATA-4 promoter in fetal mice that have been exposed to ethanol (13).

Background References

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3. Lowry, J.A. and Atchley, W.R. (2000) *J Mol Evol* 50, 103-15.
4. Gan, L. et al. (2014) *Gene Expr Patterns* 16, 8-22.
5. Yang, Y.Q. et al. (2013) *Hum Mutat* 34, 1662-71.
6. Li, R.G. et al. (2013) *Biochem Biophys Res Commun* 439, 591-6.
7. Li, J. et al. (2014) *Gene* 548, 174-81.
8. Mohan, R.A. et al. (2014) *Am J Med Genet A* 164A, 2732-8.
9. Walker, E.M. et al. (2014) *Dev Biol* 392, 283-94.
10. LaVoie, H.A. (2014) *Biol Reprod* 91, 38.
11. Güemes, M. et al. (2014) *J Bone Miner Res* 29, 2676-87.
12. Chia, N.Y. et al. (2015) *Gut* 64, 707-19.
13. Peng, C. et al. (2014) *PLoS One* 9, e104135.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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