Revision 8

Store at -20C

#5852

GATA-3 (D13C9) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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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:
W, IHC-P, IF-IC, FC-FP, ChIP, C&R	H M	Endogenous	48	Rabbit IgG	#P23771	2625

Product Usage Information

For optimal ChIP results, use 5 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:1600 - 1:6400
Immunofluorescence (Immunocytochemistry)	1:800 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:200 - 1:800
Chromatin IP	1:100
CUT&RUN	1:50

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-3 (D13C9) XP® Rabbit mAb recognizes endogenous levels of total GATA-3 protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Tyr63 of human GATA-3 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-3 is a critical regulator of development of various systems in both mouse and human (4). GATA-3 mouse embryos die between E11 and E12 due to growth retardation and deformities in the brain and spinal cord (5). The function of GATA-3 has been extensively studied in T cell development and has recently been shown to be a downstream target of Notch in Notch-mediated differentiation of TH2 cells (6,7). It is expressed in both hematopoietic and non-hematopoietic tissues, including the kidney, skin, mammary gland, and central nervous system (8-10). Decreased expression of GATA-3 in luminal breast cancer is associated with poor clinical outcome. GATA-3 expression level may therefore be a promising prognostic biomarker (11). Haploinsufficiency of GATA-3 results in Barakat syndome in humans, a condition characterized by sensorineural deafness and renal dysplasia (12).

Background References

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3. Lowry, J.A. and Atchley, W.R. (2000) *J Mol Evol* 50, 103-15.
4. Debacker, C. et al. (1999) *Mech Dev* 85, 183-7.
5. Pandolfi, P.P. et al. (1995) *Nat Genet* 11, 40-4.
6. Ho, I.C. et al. (2009) *Nat Rev Immunol* 9, 125-35.
7. Amsen, D. et al. (2007) *Immunity* 27, 89-99.
8. Grote, D. et al. (2008) *PLoS Genet* 4, e1000316.
9. Kaufman, C.K. et al. (2003) *Genes Dev* 17, 2108-22.
10. Kouros-Mehr, H. et al. (2006) *Cell* 127, 1041-55.
11. Chou, J. et al. (2010) *J Cell Physiol* 222, 42-9.
12. Van Esch, H. et al. (2000) *Nature* 406, 419-22.

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

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **C&R:** CUT&RUN

Cross-Reactivity Key

H: Human **M:** Mouse

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Limited Uses