

GATA-4 (G-4): sc-25310

BACKGROUND

Members of the GATA family share a conserved zinc finger DNA-binding domain and are capable of binding the WGATAR consensus sequence. GATA-1 is erythroid-specific and is responsible for the regulated transcription of erythroid genes. It is an essential component in the generation of the erythroid lineage. GATA-2 is expressed in embryonic brain and liver, HeLa and endothelial cells, as well as erythroid cells. Studies with a modified GATA consensus sequence, AGATCTTA, have shown that GATA-2 and GATA-3 recognize this mutated consensus while GATA-1 has poor recognition of this sequence. This indicates broader regulatory capabilities of GATA-2 and GATA-3 than GATA-1. GATA-3 is highly expressed in T lymphocytes. GATA-4, GATA-5 and GATA-6 comprise a subfamily of transcription factors. GATA-4 and GATA-6 are found in heart, pancreas and ovary; lung and liver tissues exhibit GATA-6, but not GATA-4, expression. GATA-5 expression has been observed in differentiated heart and gut tissues and is present throughout the course of development in the heart. Although expression patterns of the various GATA transcription factors may overlap, it is not yet apparent how the GATA factors are able to discriminate in binding their appropriate target sites.

CHROMOSOMAL LOCATION

Genetic locus: GATA4 (human) mapping to 8p23.1; Gata4 (mouse) mapping to 14 D1.

SOURCE

GATA-4 (G-4) is a mouse monoclonal antibody raised against amino acids 328-439 of GATA-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25310 X, 200 µg/0.1 ml.

GATA-4 (G-4) is available conjugated to agarose (sc-25310 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25310 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25310 PE), fluorescein (sc-25310 FITC), Alexa Fluor® 488 (sc-25310 AF488), Alexa Fluor® 546 (sc-25310 AF546), Alexa Fluor® 594 (sc-25310 AF594) or Alexa Fluor® 647 (sc-25310 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25310 AF680) or Alexa Fluor® 790 (sc-25310 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

GATA-4 (G-4) is recommended for detection of GATA-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

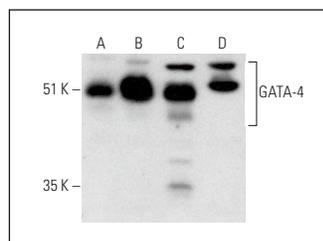
Suitable for use as control antibody for GATA-4 siRNA (h): sc-35455, GATA-4 siRNA (m): sc-35454, GATA-4 siRNA (r): sc-270093, GATA-4 shRNA Plasmid (h): sc-35455-SH, GATA-4 shRNA Plasmid (m): sc-35454-SH, GATA-4 shRNA Plasmid (r): sc-270093-SH, GATA-4 shRNA (h) Lentiviral Particles: sc-35455-V, GATA-4 shRNA (m) Lentiviral Particles: sc-35454-V and GATA-4 shRNA (r) Lentiviral Particles: sc-270093-V.

GATA-4 (G-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

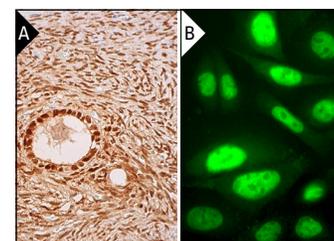
Molecular Weight of GATA-4: 45 kDa.

Positive Controls: AMJ2-C8 whole cell lysate: sc-364366, Neuro-2A whole cell lysate: sc-364185 or NIH/3T3 nuclear extract: sc-2138.

DATA



GATA-4 (G-4) HRP: sc-25310 HRP. Direct western blot analysis of GATA-4 expression in NIH/3T3 nuclear extract (A) and Neuro-2A (B), ATL-16T (C) and AMJ2-C8 (D) whole cell lysates.



GATA-4 (G-4): sc-25310. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of follicle cells and ovarian stroma cells (A). GATA-4 (G-4) Alexa Fluor® 488: sc-25310 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Jin, T., et al. 1999. Examination of POU homeobox gene expression in human breast cancer cells. *Int. J. Cancer* 81: 104-112.
- Cui, Y., et al. 2021. Global miRNA dosage control of embryonic germ layer specification. *Nature* 593: 602-606.
- Uchida, A., et al. 2022. SOX17-positive rete testis epithelium is required for Sertoli valve formation and normal spermiogenesis in the male mouse. *Nat. Commun.* 13: 7860.
- Earley, Z.M., et al. 2023. GATA4 controls regionalization of tissue immunity and commensal-driven immunopathology. *Immunity* 56: 43-57.e10.

RESEARCH USE

For research use only, not for use in diagnostic procedures.