SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-25310 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25310 X, 200 µg/0.1 ml.

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 shRNA Plasmid (h): sc-35455-SH, GATA-4 shRNA Plasmid (m): sc-35454-SH, GATA-4 shRNA (h) Lentiviral Particles: sc-35455-V and GATA-4 shRNA (m) Lentiviral Particles: sc-35454-V.

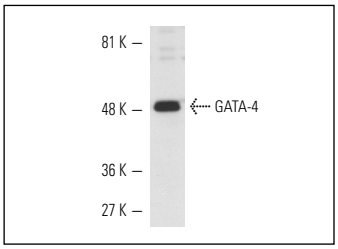
GATA-4 (G-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of GATA-4: 45 kDa.

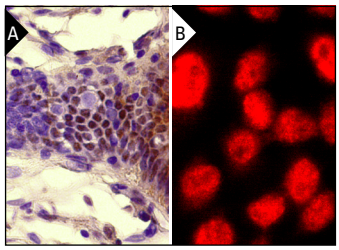
STORAGE

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

DATA



GATA-4 (G-4): sc-25310. Western blot analysis of GATA-4 expression in NIH/3T3 nuclear extract.



GATA-4 (G-4): sc-25310. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear localization (**A**).Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Zeisberg, E.M., et al. 2005. Morphogenesis of the right ventricle requires myocardial expression of GATA-4. J. Clin. Invest. 115: 1522-1531.
2. Zachar, V., et al. 2010. The effect of human embryonic stem cells (hESCs) long-term normoxic and hypoxic cultures on the maintenance of pluripotency. In Vitro Cell. Dev. Biol. Anim. 46: 276-283.
3. Scassa, M.E., et al. 2011. Human embryonic stem cells and derived contractile embryoid bodies are susceptible to Coxsakievirus B infection and respond to interferon Iβ treatment. Stem Cell Res. 6: 13-22.
4. Witman, N., et al. 2011. Recapitulation of developmental cardiogenesis governs the morphological and functional regeneration of adult newt hearts following injury. Dev. Biol. 354: 67-76.
5. Phillips, M.D., et al. 2011. Dkk1 and Dkk2 regulate epicardial specification during mouse heart development. Int. J. Cardiol. 150: 186-192.
6. Lyashenko, N., et al. 2011. Differential requirement for the dual functions of β-catenin in embryonic stem cell self-renewal and germ layer formation. Nat. Cell Biol. 13: 753-761.
7. Yang, Y., et al. 2011. The Notch ligand Jagged2 promotes lung adenocarcinoma metastasis through a miR-200-dependent pathway in mice. J. Clin. Invest. 121: 1373-1385.
8. Torres, J., et al. 2012. Efficient differentiation of embryonic stem cells into mesodermal precursors by BMP, retinoic acid and Notch signalling. PLoS ONE 7: e36405.
9. Broderick, T.L., et al. 2012. Downregulation in GATA4 and downstream structural and contractile genes in the db/db mouse heart. ISRN Endocrinol. 2012: 736860.

RESEARCH USE

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