SANTA CRUZ BIOTECHNOLOGY, INC.

GATA-1 (C-20): sc-1233

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: GATA1 (human) mapping to Xp11.23.

SOURCE

GATA-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GATA-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1233 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-1233 X, 200 µg/0.1 ml.

APPLICATIONS

GATA-1 (C-20) is recommended for detection of GATA-1 of human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GATA-1 siRNA (h): sc-29330, GATA-1 shRNA Plasmid (h): sc-29330-SH and GATA-1 shRNA (h) Lentiviral Particles: sc-29330-V.

GATA-1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

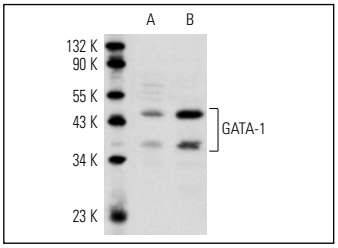
Molecular Weight of GATA-1: 47 kDa.

Positive Controls: K-562 nuclear extract: sc-2130 or HEL 92.1.7 cell lysate: sc-2270.

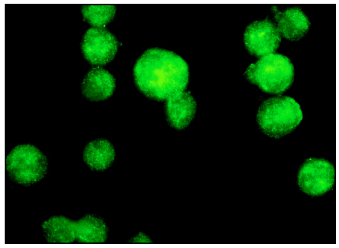
STORAGE

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

DATA



GATA-1 (C-20): sc-1233. Western blot analysis of GATA-1 expression in K-562 nuclear extract (**A**) and HEL 92.1.7 whole cell lysate (**B**).



GATA-1 (C-20): sc-1233. Immunofluorescence staining of methanol-fixed HEL 92.1.7 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. German, Z., et al. 2000. Molecular basis of cell-specific endothelial nitric-oxide synthase expression in airway epithelium. J. Biol. Chem. 275: 8183-8189.
2. Van Seuningen, I., et al. 2000. Sequence of the 5'-flanking region and promoter activity of the human mucin gene MUC5B in different phenotypes of colon cancer cells. Biochem. J. 348: 675-686.
3. Kamitani, H., et al. 2000. A GATA binding site is involved in the regulation of 15-lipoxygenase-1 expression in human colorectal carcinoma cell line, caco-2. FEBS Lett. 467: 341-347.
4. Woon Kim, Y., et al. 2011. The distinctive roles of erythroid specific activator GATA-1 and NF-E2 in transcription of the human fetal γ-globin genes. Nucleic Acids Res. 39: 6944-6955.
5. Grigorakaki, C., et al. 2011. Tumor necrosis factor α-mediated inhibition of erythropoiesis involves GATA-1/GATA-2 balance impairment and PU.1 over-expression. Biochem. Pharmacol. 82: 156-166.
6. Kim, S., et al. 2012. Chromatin structure of the LCR in the human β-globin locus transcribing the adult δ- and β-globin genes. Int. J. Biochem. Cell Biol. 44: 505-513.
7. Kim, Y.W. and Kim, A. 2013. Histone acetylation contributes to chromatin looping between the locus control region and globin gene by influencing hypersensitive site formation. Biochim. Biophys. Acta 1829: 963-969.

RESEARCH USE

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