

p-GATA-4 (H-4): sc-377543

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 in 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. Both 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

p-GATA-4 (H-4) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 262 phosphorylated GATA-4 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377543 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-GATA-4 (H-4) is recommended for detection of Ser 262 phosphorylated GATA-4 of mouse, rat and human 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). p-GATA-4 (H-4) is also recommended for detection of correspondingly phosphorylated GATA-4 in additional species, including canine, bovine, porcine and avian.

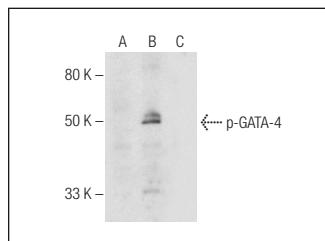
Suitable for use as control antibody for GATA-4 siRNA (h): sc-35455, GATA-4 siRNA (m): sc-35454, GATA-4 siRNA (r): sc-270093, GATA-4 shRNA Plasmid (h): sc-35455-SH, GATA-4 shRNA Plasmid (m): sc-35454-SH, GATA-4 shRNA Plasmid (r): sc-270093-SH, GATA-4 shRNA (h) Lentiviral Particles: sc-35455-V, GATA-4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

Molecular Weight of p-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



Western blot analysis of GATA-4 phosphorylation in untreated (A), induction cocktail (sc-362324) treated (B) and induction cocktail (sc-362324) and lambda protein phosphatase (sc-200312A) treated (C) HeLa whole cell lysates. Antibody tested include p-GATA-4 (H-4): sc-377543 (A, B, C).

SELECT PRODUCT CITATIONS

- Hübner, D., et al. 2017. Infection of iPSC lines with miscarriage-associated coxsackievirus and measles virus and teratogenic rubella virus as a model for viral impairment of early human embryogenesis. *ACS Infect. Dis.* 3: 886-897.
- Liu, J., et al. 2017. Role of CYP51 in the regulation of T3 and FSH-induced steroidogenesis in female mice. *Endocrinology* 158: 3974-3987.
- Sorriento, D., et al. 2018. The amino-terminal domain of GRK5 inhibits cardiac hypertrophy through the regulation of calcium-calmodulin dependent transcription factors. *Int. J. Mol. Sci.* 19: 861.
- Li, T., et al. 2019. The status of MAPK cascades contributes to the induction and activation of GATA-4 and Nkx2.5 during the stepwise process of cardiac differentiation. *Cell. Signal.* 54: 17-26.
- Xu, Y., et al. 2019. Possible mechanism of GATA-4 inhibiting myocardin activity during cardiac hypertrophy. *J. Cell. Biochem.* 120: 9047-9055.
- Meng, H., et al. 2021. Baoyuan decoction (BYD) attenuates cardiac hypertrophy through ANKRD1-ERK/GATA4 pathway in heart failure after acute myocardial infarction. *Phytomedicine* 89: 153617.
- Ho, T.J., et al. 2022. Arecoline induces cardiotoxicity by upregulating and activating cardiac hypertrophy-related pathways in Sprague-Dawley rats. *Chem. Biol. Interact.* 354: 109810.

RESEARCH USE

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

PROTOCOLS

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