SANTA CRUZ BIOTECHNOLOGY, INC.

FOG (M-216): sc-10754

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The FOG family of transcriptional cofactors, including FOG (friend of GATA-1) and FOG-2, are zinc finger proteins that interact with the GATA family of transcriptional regulators. FOG/GATA-1 complexes are required for erythroid and megakaryocyte maturation, and they promote differentiation during embryonic development. These complexes involve the association between multiple zinc fingers on the FOG proteins and the N-terminal zinc finger of GATA proteins. While FOG cooperatively regulates GATA-1 induced transcription, FOG-2 is able to both positively and negatively influence GATA mediated transcription. FOG-2 is predominantly expressed in heart, neurons and gonads, and it preferentially participates in the regulation of GATA-3, GATA-4 and GATA-6. In cardiomyocytes and fibroblasts, FOG-2 inhibits GATA-4 transcriptional activity, yet FOG-2 restores GATA-1 mediated transcription in erythroid cultures deficient in FOG, suggesting that the observed effects of FOG-2 are context specific and vary between cellular systems.

REFERENCES

1. Tsang, A.P., et al. 1997. FOG, a multitype zinc finger protein, acts as a cofactor for transcription factor GATA-1 in erythroid and megakaryocytic differentiation. Cell 90: 109-119.
2. Tsang, A.P., et al. 1998. Failure of megakaryopoiesis and arrested erythropoiesis in mice lacking the GATA-1 transcriptional cofactor FOG. Genes Dev. 12: 1176-1188.
3. Svensson, E.C., et al. 1999. Molecular cloning of FOG-2: a modulator of transcription factor GATA-4 in cardiomyocytes. Proc. Natl. Acad. Sci. USA 96: 956-961.
4. Fox, A.H., et al. 1999. Transcriptional cofactors of the FOG family interact with GATA proteins by means of multiple zinc fingers. EMBO J. 18: 2812-2822.
5. Lu, J.R., et al. 1999. FOG-2, a heart- and brain-enriched cofactor for GATA transcription factors. Mol. Cell. Biol. 19: 4495-4502.

CHROMOSOMAL LOCATION

Genetic locus: ZFPM1 (human) mapping to 16q24.2; Zfpm1 (mouse) mapping to 8 E1.

SOURCE

FOG (M-216) is a rabbit polyclonal antibody raised against amino acids 334-549 of FOG of mouse origin.

PRODUCT

Each vial contains 200 µg IgG 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-10754 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

FOG (M-216) is recommended for detection of FOG 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).

Suitable for use as control antibody for FOG siRNA (h): sc-35399, FOG siRNA (m): sc-35400, FOG shRNA Plasmid (h): sc-35399-SH, FOG shRNA Plasmid (m): sc-35400-SH, FOG shRNA (h) Lentiviral Particles: sc-35399-V and FOG shRNA (m) Lentiviral Particles: sc-35400-V.

FOG (M-216) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FOG: 125 kDa.

Positive Controls: rat testis extract: sc-2400.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Anguita, E., et al. 2004. Globin gene activation during haemopoiesis is driven by protein complexes nucleated by GATA-1 and GATA-2. EMBO J. 23: 2841-2852 .
2. Stellacci, E., et al. 2004. Interferon regulatory factor-2 drives megakaryocytic differentiation. Biochem. J. 377: 367-378.
3. Saulle, E., et al. 2006. *In vitro* dual effect of arsenic trioxide on hemopoiesis: inhibition of erythropoiesis and stimulation of megakaryocytic maturation. Blood Cells Mol. Dis. 36: 59-76.
4. Petronelli, A., et al. 2011. CDDO-Im is a stimulator of megakaryocytic differentiation. Leuk. Res. 35: 534-544.

RESEARCH USE

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