

FOG (A-20): sc-9362

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. Tevosian, S.G., et al. 1999. FOG-2: A novel GATA-family cofactor related to multitype zinc-finger proteins Friend of GATA-1 and U-shaped. *Proc. Natl. Acad. Sci. USA* 96: 950-955.
4. 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.
5. 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.
6. 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 (mouse) mapping to 8 E1.

SOURCE

FOG (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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-9362 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-9362 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FOG (A-20) is recommended for detection of FOG of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-35400, FOG shRNA Plasmid (m): sc-35400-SH and FOG shRNA (m) Lentiviral Particles: sc-35400-V.

FOG (A-20) 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Cantor, A.B., et al. 2002. Distinct domains of the GATA-1 cofactor FOG-1 differentially influence erythroid versus megakaryocytic maturation. *Mol. Cell. Biol.* 22: 4268-4279.
2. Stellacci, E., et al. 2004. Interferon regulatory factor-2 drives megakaryocytic differentiation. *Biochem. J.* 377: 367-378.
3. Maeda, K., et al. 2006. FOG-1 represses GATA-1-dependent Fc ε RI β-chain transcription: transcriptional mechanism of mast-cell-specific gene expression in mice. *Blood* 108: 262-269.
4. Snow, J.W., et al. 2009. Translational isoforms of FOG1 regulate GATA-1-interacting complexes. *J. Biol. Chem.* 284: 29310-29319.

STORAGE

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

RESEARCH USE

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



Try **FOG (A-6): sc-376189**, our highly recommended monoclonal alternative to FOG (A-20).