SANTA CRUZ BIOTECHNOLOGY, INC.

FOG (A-6): sc-376189

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

FOG (A-6) is a mouse monoclonal antibody raised against amino acids 334-549 of FOG of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-376189 X, 200 µg/0.1 ml.

FOG (A-6) is available conjugated to agarose (sc-376189 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376189 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376189 PE), fluorescein (sc-376189 FITC), Alexa Fluor® 488 (sc-376189 AF488), Alexa Fluor® 546 (sc-376189 AF546), Alexa Fluor® 594 (sc-376189 AF594) or Alexa Fluor® 647 (sc-376189 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376189 AF680) or Alexa Fluor® 790 (sc-376189 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

FOG (A-6) is recommended for detection of FOG of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

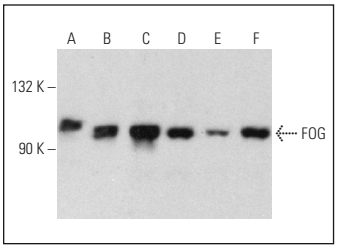
Suitable for use as control antibody for FOG siRNA (h): sc-35399, FOG siRNA (m): sc-35400, FOG shRNA Plasmid (h): sc-35399-SH, FOG shRNA Plasmid (m): sc-35400-SH, FOG shRNA (h) Lentiviral Particles: sc-35399-V and FOG shRNA (m) Lentiviral Particles: sc-35400-V.

FOG (A-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

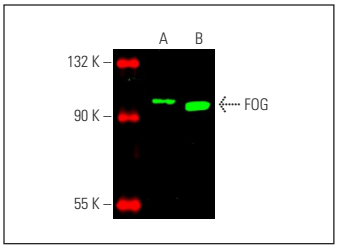
Molecular Weight of FOG: 125 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179, PC-12 cell lysate: sc-2250 or M1 whole cell lysate: sc-364782.

DATA



FOG (A-6): sc-376189. Western blot analysis of FOG expression in OV-90 (**A**), NCI-H292 (**B**), M1 (**C**), SP2/0 (**D**), NRK (**E**) and PC-12 (**F**) whole cell lysates.



FOG (A-6) Alexa Fluor® 680: sc-376189 AF680. Direct near-infrared western blot analysis of FOG expression in NCI-H292 (**A**) and SP2/0 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 790: sc-516731.

SELECT PRODUCT CITATIONS

1. Chennupati, V., et al. 2018. Ribonuclease inhibitor 1 regulates erythropoiesis by controlling GATA1 translation. J. Clin. Invest. 128: 1597-1614.
2. Shin, E., et al. 2020. The Gata1^{low} murine megakaryocyte-erythroid progenitor cells expand robustly and alter differentiation potential. Biochem. Biophys. Res. Commun. 528: 46-53.
3. Sekiya, M., et al. 2021. The transcriptional corepressor CtBP2 serves as a metabolite sensor orchestrating hepatic glucose and lipid homeostasis. Nat. Commun. 12: 6315.
4. Du, C., et al. 2022. Renal Klotho and inorganic phosphate are extrinsic factors that antagonistically regulate hematopoietic stem cell maintenance. Cell Rep. 38: 110392.

STORAGE

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