SANTA CRUZ BIOTECHNOLOGY, INC.

GABP-α (G-1): sc-28312

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transcription factor GA-binding protein (GABP) is composed of two subunits, the Ets-related GABP-α and a GABP-α-associated subunit, GABP-β. GABP-α binds to a specific DNA sequence and GABP-β exists as β1 and β2 splice variants that differ in their C-termini. In primary neuronal cultures, GABP-β is expressed in both the cytoplasm and the nucleus, whereas GABP-α is expressed mainly in the nucleus. GABP is constitutively expressed as either a GABP-αβ heterodimer or a GABP-αβ heterotetramer, both of which can modify GABP-dependent transcription *in vitro* and *in vivo*. The GABP-αβ tetrameric complex performs many different functions, such as stimulating transcription of the adenovirus E4 gene, differentially activating BRCA1 expression in human breast cell lines, potentiating Tat-mediated activation of long terminal repeat promoter transcription and viral replication in certain cell types, acting as a coordinator of mitochrondrial and nuclear transcription for cytochrome oxidase in neurons and assisting in the regulation of rpL32 gene transcription.

REFERENCES

1. Suzuki, F., et al. 1998. Functional interactions of transcription factor human GA-binding protein subunits. J. Biol. Chem. 273: 29302-29308.
2. Sawada, J., et al. 1999. Synergistic transcriptional activation by hGABP and select members of the activation transcription factor/cAMP response element-binding protein family. J. Biol. Chem. 274: 35475-35482.

CHROMOSOMAL LOCATION

Genetic locus: GABPA (human) mapping to 21q21.3; Gabpa (mouse) mapping to 16 C3.3.

SOURCE

GABP-α (G-1) is a mouse monoclonal antibody raised against amino acids 1-180 of GABP-α of human 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-28312 X, 200 µg/0.1 ml.

GABP-α (G-1) is available conjugated to agarose (sc-28312 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-28312 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28312 PE), fluorescein (sc-28312 FITC), Alexa Fluor® 488 (sc-28312 AF488), Alexa Fluor® 546 (sc-28312 AF546), Alexa Fluor® 594 (sc-28312 AF594) or Alexa Fluor® 647 (sc-28312 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28312 AF680) or Alexa Fluor® 790 (sc-28312 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

GABP-α (G-1) is recommended for detection of GABP-α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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).

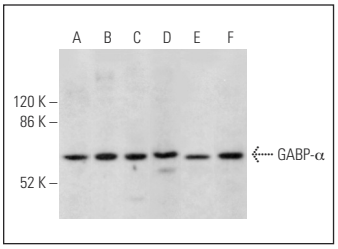
Suitable for use as control antibody for GABP-α siRNA (h): sc-37100, GABP-α siRNA (m): sc-37101, GABP-α shRNA Plasmid (h): sc-37100-SH, GABP-α shRNA Plasmid (m): sc-37101-SH, GABP-α shRNA (h) Lentiviral Particles: sc-37100-V and GABP-α shRNA (m) Lentiviral Particles: sc-37101-V.

GABP-α (G-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

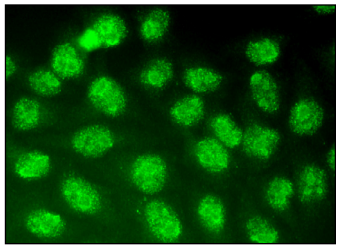
Molecular Weight of GABP-α: 60 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, SW480 nuclear extract: sc-2155 or Jurkat nuclear extract: sc-2132.

DATA



GABP-α (G-1): sc-28312. Western blot analysis of GABP-α expression in MCF7 (**A**), SW480 (**B**), Jurkat (**C**) and K-562 (**D**) nuclear extracts and SK-BR-3 (**E**) and 3T3-L1 (**F**) whole cell lysates.



GABP-α (G-1): sc-28312. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Collins, P.J., et al. 2007. The Ets-related transcription factor GABP directs bidirectional transcription. PLoS Genet. 3: e208.
2. Manukjan, G., et al. 2015. Expression of the ETS transcription factor GABP-α is positively correlated to the Bcr-Abl1/Abl1 ratio in CML patients and affects imatinib sensitivity *in vitro*. Exp. Hematol. 43: 880-890.
3. Yu, B., et al. 2018. PGC-1α controls skeletal stem cell fate and bone-fat balance in osteoporosis and skeletal aging by inducing TAZ. Cell Stem Cell 23: 193-209.e5.
4. Wilson, B.C., et al. 2020. Intellectual disability-associated factor Zbtb11 cooperates with NRF-2/GABP to control mitochondrial function. Nat. Commun. 11: 5469.
5. Wong, K.M., et al. 2021. CTCF and EGR1 suppress breast cancer cell migration through transcriptional control of Nm23-H1. Sci. Rep. 11: 491.

RESEARCH USE

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