SANTA CRUZ BIOTECHNOLOGY, INC.

GABP-β1/2 (11): sc-130315

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. Martin, M.E., et al. 1996. Redox regulation of GA-binding protein-α DNA binding activity. J. Biol. Chem. 271: 25617-25623.
2. Suzuki, F., et al. 1998. Functional interactions of transcription factor human GA-binding protein subunits. J. Biol. Chem. 273: 29302-29308.
3. 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.
4. Hoare, S., et al. 1999. Identification of a GABP-α/β binding site involved in the induction of oxytocin receptor gene expression in human breast cells, potentiation by c-Fos/c-Jun. Endocrinology 140: 2268-2279.
5. Verhoef, K., et al. 1999. Evolution of the human immunodeficiency virus type 1 long terminal repeat promoter by conversion of an NFκB enhancer element into a GABP binding site. J. Virol. 73: 1331-1340.
6. Atlas, E., et al. 2000. GA-binding protein α/β is critical regulator of the BRCA1 promoter. Oncogene 19: 1933-1940.
7. Chinenov, Y., et al. 2000 The α and β subunits of the GA-binding protein form a stable heterodimer in solution. Revised model of heterotetrameric complex assembly. J. Biol. Chem. 275: 7749-7756.

CHROMOSOMAL LOCATION

Genetic locus: GABPB1 (human) mapping to 15q21.2, GABPB2 (human) mapping to 1q21.3; Gabpb1 (mouse) mapping to 2 F1, Gabpb2 (mouse) mapping to 3 F2.1.

SOURCE

GABP-β1/2 (11) is a mouse monoclonal antibody raised against recombinant GABP-β1/2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GABP-β1/2 (11) is recommended for detection of GABP-β1 and GABP-β2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GABP-β1/2 siRNA (h): sc-37903, GABP-β1/2 siRNA (m): sc-37904, GABP-β1/2 shRNA Plasmid (h): sc-37903-SH, GABP-β1/2 shRNA Plasmid (m): sc-37904-SH, GABP-β1/2 shRNA (h) Lentiviral Particles: sc-37903-V and GABP-β1/2 shRNA (m) Lentiviral Particles: sc-37904-V.

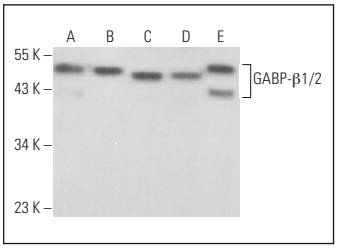
Molecular Weight of GABP-β1/2: 42 kDa.

Positive Controls: GABP-β1/2 (h): 293T Lysate: sc-113433, Jurkat whole cell lysate: sc-2204 or C6 whole cell lysate: sc-364373.

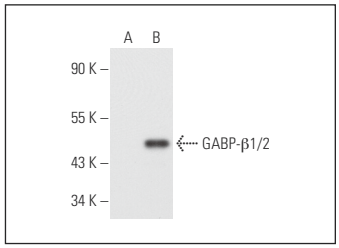
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



GABP-β1/2 (11): sc-130315. Western blot analysis of GABP-β1/2 expression in Jurkat (**A**), 3T3-L1 (**B**), PC-12 (**C**) and C6 (**D**) whole cell lysates and HeLa nuclear extract (**E**).



GABP-β1/2 (11): sc-130315. Western blot analysis of GABP-β1/2 expression in non-transfected: sc-117752 (**A**) and human GABP-β1/2 transfected: sc-113433 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ripperger, T., et al. 2015. The heteromeric transcription factor GABP activates the ITGAM/CD11b promoter and induces myeloid differentiation. Biochim. Biophys. Acta 1849: 1145-1154.

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.