SANTA CRUZ BIOTECHNOLOGY, INC.

GABP-α (8C1B10): sc-134222

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-α/β heterodimer or a GABP-α/β heterotetramer, both of which can modify GABP-dependent transcription *in vitro* and *in vivo*. The GABP-α/β 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

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2. 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.
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. Zhang, C. and Wong-Riley, M.T. 2000. Depolarizing stimulation upregulates GA-binding protein in neurons: a transcription factor involved in the bigenomic expression of cytochrome oxidase subunits. Eur. J. Neurosci. 12: 1013-1023.
5. Atlas, E., et al. 2000. GA-binding protein α/β is critical regulator of the BRCA1 promoter. Oncogene 19: 1933-1940.
6. 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.
7. Patton, J., et al. 2006. Identification of functional elements in the murine GABP-α/ATP synthase coupling factor 6 bi-directional promoter. Gene 369: 35-44.
8. Kinoshita, K., et al. 2007. GABP-α regulates Oct-3/4 expression in mouse embryonic stem cells. Biochem. Biophys. Res. Commun. 353: 686-691.
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CHROMOSOMAL LOCATION

Genetic locus: GABPA (human) mapping to 21q21.3.

RESEARCH USE

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

SOURCE

GABP-α (8C1B10) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 120-190 of GABP-α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GABP-α (8C1B10) is recommended for detection of GABP-α of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) 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 shRNA Plasmid (h): sc-37100-SH and GABP-α shRNA (h) Lentiviral Particles: sc-37100-V.

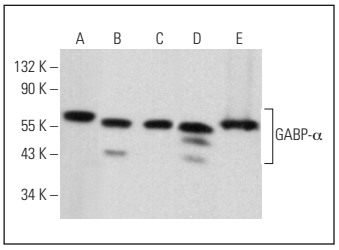
Molecular Weight of GABP-α: 60 kDa.

Positive Controls: GABP-α (h): 293T Lysate: sc-177264, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

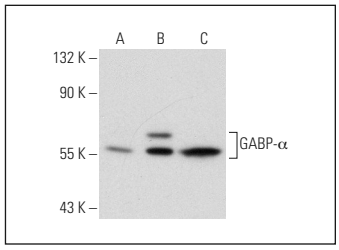
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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.

DATA



GABP-α (8C1B10): sc-134222. Western blot analysis of GABP-α expression in HeLa (**A**), SK-BR-3 (**B**), MCF7 (**C**) and Jurkat (**D**) whole cell lysates and Jurkat nuclear extract (**E**).



GABP-α (8C1B10): sc-134222. Western blot analysis of GABP-α expression in non-transfected: sc-117752 (**A**) and human GABP-α transfected: sc-177264 (**B**) 293T whole cell lysates and HeLa nuclear extract (**C**).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.