

GABP- α (h): 293T Lysate: sc-177264

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 $\beta 1$ and $\beta 2$ 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 mitochondrial 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. Verhoef, K., et al. 1999. Evolution of the human immunodeficiency virus type 1 long terminal repeat promoter by conversion of an NF κ B 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.
9. O'leary, D.A., et al. 2007. Targeting of the ETS factor GABP- α disrupts neuromuscular junction synaptic function. *Mol. Cell. Biol.* 27: 3470-3480.

CHROMOSOMAL LOCATION

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

PRODUCT

GABP- α (h): 293T Lysate represents a lysate of human GABP- α transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

GABP- α (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive GABP- α antibodies.

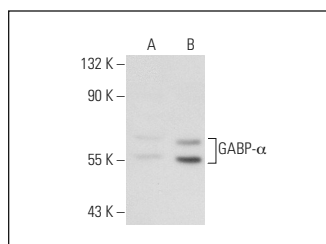
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GABP- α (H-2): sc-28311 is recommended as a positive control antibody for Western Blot analysis of enhanced human GABP- α expression in GABP- α transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

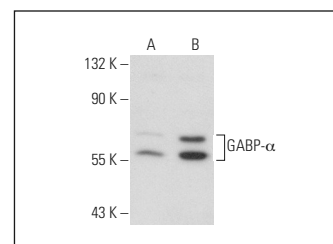
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



GABP- α (H-2): sc-28311. 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.



GABP- α (G-1): sc-28312. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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