# GABP-α (m): 293T Lysate: sc-120382



The Power to Question

#### **BACKGROUND**

The transcription factor GA-binding protein (GABP) is composed of two subunits, the Ets-related GABP- $\alpha$  and a GABP- $\alpha$ -associated subunit, GABP- $\beta$ . GABP- $\alpha$  binds to a specific DNA sequence and GABP- $\beta$  exists as  $\beta 1$  and  $\beta 2$  splice variants that differ in their C-termini. In primary neuronal cultures, GABP- $\beta$  is expressed in both the cytoplasm and the nucleus, whereas GABP- $\alpha$  is expressed aminly in the nucleus. GABP is constitutively expressed as either a GABP- $\alpha/\beta$  heterodimer or a GABP- $\alpha/\beta$  heterotetramer, both of which can modify GABP-dependent transcription in vitro and in vivo. The GABP- $\alpha/\beta$  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**

- Suzuki, F., et al. 1998. Functional interactions of transcription factor human GA-binding protein subunits. J. Biol. Chem. 273: 29302-29308.
- 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.
- 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  $\alpha/\beta$  is critical regulator of the BRCA1 promoter. Oncogene 19: 1933-1940.
- 6. Chinenov, Y., et al. 2000 The  $\alpha$  and  $\beta$  subunits of the GA-binding protein form a stable heterodimer in solution. Revised model of heterotetrameric complex assembly. J. Biol. Chem. 275: 7749-7756.
- 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- $\alpha$  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- $\alpha$  disrupts neuromuscular junction synaptic function. Mol. Cell. Biol. 27: 3470-3480.

## **CHROMOSOMAL LOCATION**

Genetic locus: Gabpa (mouse) mapping to 16 C3.3.

### **PRODUCT**

GABP- $\alpha$  (m): 293T Lysate represents a lysate of mouse GABP- $\alpha$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

#### **APPLICATIONS**

GABP- $\alpha$  (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive GABP- $\alpha$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

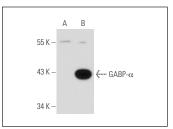
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GABP- $\alpha$  (G-1): sc-28312 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse GABP- $\alpha$  expression in GABP- $\alpha$  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-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

#### **DATA**



GABP- $\alpha$  (G-1): sc-28312. Western blot analysis of GABP- $\alpha$  expression in non-transfected: sc-117752 (A) and truncated mouse GABP- $\alpha$  transfected: sc-120382 (B) 293T whole cell Ivsates.

#### **STORAGE**

Store at -20 $^{\circ}$  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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com