SANTA CRUZ BIOTECHNOLOGY, INC.

GABP-β1/2 (E-7): sc-271571

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: GABPB1 (human) mapping to 15q21.2, GABPB2 (human) mapping to 1q21.3.

SOURCE

GABP-β1/2 (E-7) is a mouse monoclonal antibody raised against amino acids 131-395 mapping at the C-terminus of GABP-β1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271571 X, 200 µg/0.1 ml.

GABP-β1/2 (E-7) is available conjugated to agarose (sc-271571 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271571 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271571 PE), fluorescein (sc-271571 FITC), Alexa Fluor® 488 (sc-271571 AF488), Alexa Fluor® 546 (sc-271571 AF546), Alexa Fluor® 594 (sc-271571 AF594) or Alexa Fluor® 647 (sc-271571 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271571 AF680) or Alexa Fluor® 790 (sc-271571 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-β1/2 (E-7) is recommended for detection of GABP-β1 and GABP-β2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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).

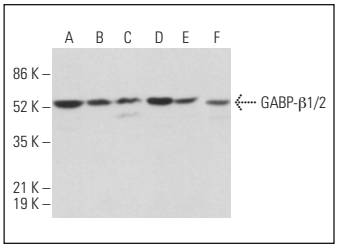
Suitable for use as control antibody for GABP-β1/2 siRNA (h): sc-37903, GABP-β1/2 shRNA Plasmid (h): sc-37903-SH and GABP-β1/2 shRNA (h) Lentiviral Particles: sc-37903-V.

GABP-β1/2 (E-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

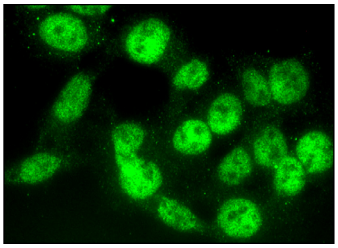
Molecular Weight of GABP-β1/2: 42 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, THP-1 cell lysate: sc-2238 or T-47D cell lysate: sc-2293.

DATA



GABP-β1/2 (E-7): sc-271571. Western blot analysis of GABP-β1/2 expression in Jurkat (**A**), T-47D (**B**), A-375 (**C**), THP-1 (**D**) and Caco-2 (**E**) whole cell lysates and HeLa nuclear extract (**F**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



GABP-β1/2 (E-7): sc-271571. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Zhang, T., et al. 2017. SDHD promoter mutations ablate GABP transcription factor binding in melanoma. Cancer Res. 77: 1649-1661.
2. Liu, R., et al. 2018. Regulation of mutant TERT by BRAF V600E/MAP kinase pathway through Fos/GABP in human cancer. Nat. Commun. 9: 579.
3. Bullock, M., et al. 2019. ETS factor ETV5 activates the mutant telomerase reverse transcriptase promoter in thyroid cancer. Thyroid 29: 1623-1633.
4. Liu, R., et al. 2021. Therapeutic targeting of FOS in mutant TERT cancers through removing TERT suppression of apoptosis via regulating survivin and TRAIL-R2. Proc. Natl. Acad. Sci. USA 118: e2022779118.
5. Prieto-Carrasco, R., et al. 2021. Progressive reduction in mitochondrial mass is triggered by alterations in mitochondrial biogenesis and dynamics in chronic kidney disease induced by 5/6 nephrectomy. Biology 10: 349.
6. Xing, X., et al. 2022. Downregulation and hypermethylation of GABPB1 is associated with aggressive thyroid cancer features. Cancers 14: 1385.

RESEARCH USE

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