SANTA CRUZ BIOTECHNOLOGY, INC.

SATB2 (G-11): sc-518006

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SATB2 (special AT-rich sequence-binding protein 2) is a nuclear matrix protein that influences craniofacial formation mechanisms, such as jaw and palate development, and is part of a transcriptional network regulating skeletal development and osteoblast differentiation. Highly expressed in adult and fetal brain, SATB2 contains two CUT DNA-binding domains and one homeobox domain and is closely related to SATB1, a transcriptional repressor. SATB2 is thought to bind to matrix-attachment regions (MARs) and regulate MAR-dependent transcription of various genes, including HoxA2 and ATF4 (CREB-2), involved in skeletal development. Functioning as both a transcriptional activator and repressor, SATB2 can also act as a protein scaffold that can enhance the activity of other DNA-binding proteins. Defects in the gene encoding SATB2 are the cause of cleft palate manifested in conjunction with severe mental retardation.

REFERENCES

1. FitzPatrick, D.R., et al. 2003. Identification of SATB2 as the cleft palate gene on 2q32-q33. Hum. Mol. Genet. 12: 2491-2501.
2. Dobreva, G., et al. 2003. SUMO modification of a novel MAR-binding protein, SATB2, modulates immunoglobulin μ gene expression. Genes Dev. 17: 3048-3061.
3. Britanova, O., et al. 2005. Novel transcription factor SATB2 interacts with matrix attachment region DNA elements in a tissue-specific manner and demonstrates cell-type-dependent expression in the developing mouse CNS. Eur. J. Neurosci. 21: 658-668.

CHROMOSOMAL LOCATION

Genetic locus: SATB2 (human) mapping to 2q33.1; Satb2 (mouse) mapping to 1 C1.3.

SOURCE

SATB2 (G-11) is a mouse monoclonal antibody raised against amino acids 225-342 mapping within an internal region of SATB2 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.

SATB2 (G-11) is available conjugated to agarose (sc-518006 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518006 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518006 PE), fluorescein (sc-518006 FITC), Alexa Fluor® 488 (sc-518006 AF488), Alexa Fluor® 546 (sc-518006 AF546), Alexa Fluor® 594 (sc-518006 AF594) or Alexa Fluor® 647 (sc-518006 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518006 AF680) or Alexa Fluor® 790 (sc-518006 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

SATB2 (G-11) is recommended for detection of SATB2 of mouse, rat and 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 SATB2 siRNA (h): sc-76456, SATB2 siRNA (m): sc-76457, SATB2 shRNA Plasmid (h): sc-76456-SH, SATB2 shRNA Plasmid (m): sc-76457-SH, SATB2 shRNA (h) Lentiviral Particles: sc-76456-V and SATB2 shRNA (m) Lentiviral Particles: sc-76457-V.

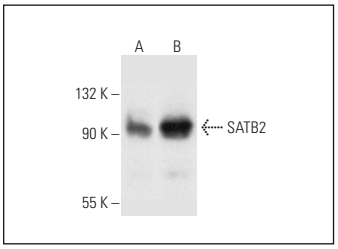
Molecular Weight of SATB2: 105 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HT-1080 whole cell lysate: sc-364183 or Saos-2 cell lysate: sc-2235.

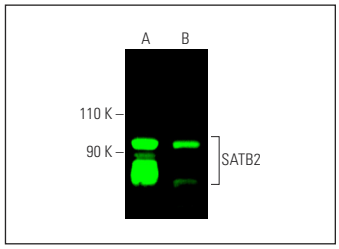
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SATB2 (G-11): sc-518006. Western blot analysis of SATB2 expression in HT-1080 (**A**) and Saos-2 (**B**) whole cell lysates.



SATB2 (G-11): sc-518006. Near-Infrared western blot analysis of SATB2 expression in THP-1 (**A**) and K-562 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 680: sc-542739.

SELECT PRODUCT CITATIONS

1. Wakao, S., et al. 2022. Phagocytosing differentiated cell-fragments is a novel mechanism for controlling somatic stem cell differentiation within a short time frame. Cell. Mol. Life Sci. 79: 542.

RESEARCH USE

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