

# SATB2 (SATBA4B10): sc-81376

## 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 ATF-4 (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.

## CHROMOSOMAL LOCATION

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

## SOURCE

SATB2 (SATBA4B10) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminal region of SATB2 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## APPLICATIONS

SATB2 (SATBA4B10) is recommended for detection of SATB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SATB2 siRNA (h): sc-76456, SATB2 siRNA (m): sc-76457, SATB2 siRNA (r): sc-61891, SATB2 shRNA Plasmid (h): sc-76456-SH, SATB2 shRNA Plasmid (m): sc-76457-SH, SATB2 shRNA Plasmid (r): sc-61891-SH, SATB2 shRNA (h) Lentiviral Particles: sc-76456-V, SATB2 shRNA (m) Lentiviral Particles: sc-76457-V and SATB2 shRNA (r) Lentiviral Particles: sc-61891-V.

Molecular Weight of SATB2: 105 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, NIH/3T3 whole cell lysate: sc-2210 or C6 whole cell lysate: sc-364373.

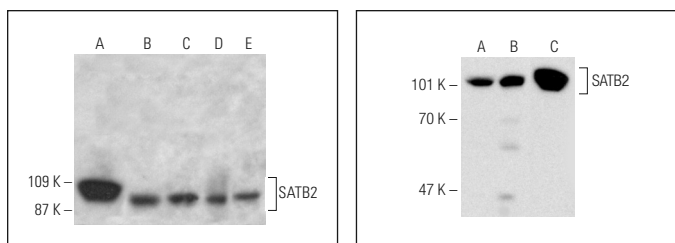
## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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

## DATA



SATB2 (SATBA4B10): sc-81376. Western blot analysis of SATB2 expression in SH-SY5Y nuclear extract (A), NIH/3T3 (B) and C6 (C) whole cell lysates and mouse brain (D) and rat brain (E) tissue extracts.

SATB2 (SATBA4B10): sc-81376. Western blot analysis of SATB2 expression in KNRK (A), HT-1080 (B) and SH-SY5Y (C) nuclear extracts.

## SELECT PRODUCT CITATIONS

- Magnusson, K., et al. 2011. SATB2 in combination with cytokeratin 20 identifies over 95% of all colorectal carcinomas. *Am. J. Surg. Pathol.* 35: 937-948.
- Leoyklang, P., et al. 2013. Disorders with similar clinical phenotypes reveal underlying genetic interaction: SATB2 acts as an activator of the UPF3B gene. *Hum Genet.* 132: 1383-1393.
- Kobayashi, M., et al. 2014. Reappraisal of the immunophenotype of pancreatic intraductal papillary mucinous neoplasms (IPMNs)—gastric pyloric and small intestinal immunophenotype expression in gastric and intestinal type IPMNs—. *Acta Histochem. Cytochem.* 47: 45-57.
- Liu, R., et al. 2015. Fstl1 is involved in the regulation of radial glial scaffold development. *Mol. Brain* 8: 53.
- Righi, A., et al. 2015. Sclerosing epithelioid fibrosarcoma of the thigh: report of two cases with synchronous bone metastases. *Virchows Arch.* 467: 339-344.
- Righi, A., et al. 2015. Small cell osteosarcoma: clinicopathologic, immunohistochemical, and molecular analysis of 36 cases. *Am. J. Surg. Pathol.* 39: 691-699.
- Múnera, J.O., et al. 2017. Differentiation of human pluripotent stem cells into colonic organoids via transient activation of BMP signaling. *Cell Stem Cell* 21: 51-64.
- Ludwig, K., et al. 2017. BCOR-CCNB3 undifferentiated sarcoma—does immunohistochemistry help in the identification? *Pediatr. Dev. Pathol.* 20: 321-329.
- Chen, P., et al. 2017. MicroRNA-449a modulates medullary thymic epithelial cell differentiation. *Sci. Rep.* 7: 15915.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.