

PRODUCT INFORMATION

Product name : SATB2 antibody

Product type : Primary antibodies

Description : Rabbit polyclonal to SATB2

Immunogen : 3 synthetic peptides (human) conjugated to KLH

Reacts with : Hu, Ms

Tested applications : ELISA, WB and IF

GENE INFORMATION

Gene Symbol : SATB2

Gene Name : SATB homeobox 2

Ensembl ID : ENSG00000119042

Entrez Gene ID : 23314

GenBank Accession number : AB028957

Swiss-Prot : Q9UPW6

Molecular weight of SATB2 : 82.6 kDa

Function : Binds to DNA, at nuclear matrix- or scaffold-associated regions. Thought to recognize the sugar-phosphate structure of double-stranded DNA. Transcription factor controlling nuclear gene expression, by binding to matrix attachment regions (MARs) of DNA and inducing a local chromatin-loop remodeling. Acts as a docking site for several chromatin remodeling enzymes and also by recruiting corepressors (HDACs) or coactivators (HATs) directly to promoters and enhancers. Required for the initiation of the upper-layer neurons (UL1) specific genetic program and for the inactivation of deep-layer neurons (DL) and UL2 specific genes, probably by modulating BCL11B expression. Repressor of Ctip2 and regulatory determinant of corticocortical connections in the developing cerebral cortex. May play an important role in palate formation. Acts as a molecular node in a transcriptional network regulating skeletal development and osteoblast differentiation.

Expected subcellular localization : Nucleus matrix.

Expected tissue specificity : High expression in adult brain, moderate expression in fetal brain, and weak expression in adult liver, kidney, and spinal cord and in select brain regions, including amygdala, corpus callosum, caudate nucleus, and hippocampus.

Summary: This gene encodes a DNA binding protein that specifically binds nuclear matrix attachment regions. The encoded protein is involved in transcription regulation and chromatin remodeling. Defects in this gene are associated with isolated cleft palate and

mental retardation. Alternate splicing results in multiple transcript variants that encode the same protein.

APPLICATION NOTE

Recommended dilution :

- ELISA: Antibody specificity was verified by direct ELISA against the 3 immunogen peptides. A minimum titer of 1/50000 has been determined. Appropriate specificity controls were run.
- WB (recombinant protein): 1/5000.
- IF: 1/5000.

Optimal dilutions/concentration should be determined by the end user.

Raised in : Rabbit

Clonality : Polyclonal

Isotype : IgG

Purity : Purified Antibody

Storage buffer : 0.5 X PBS, containing a final concentration of 50% glycerol, 0.1% BSA and 0.01% Thimerosal.

Form : Liquid

Storage instruction : Store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

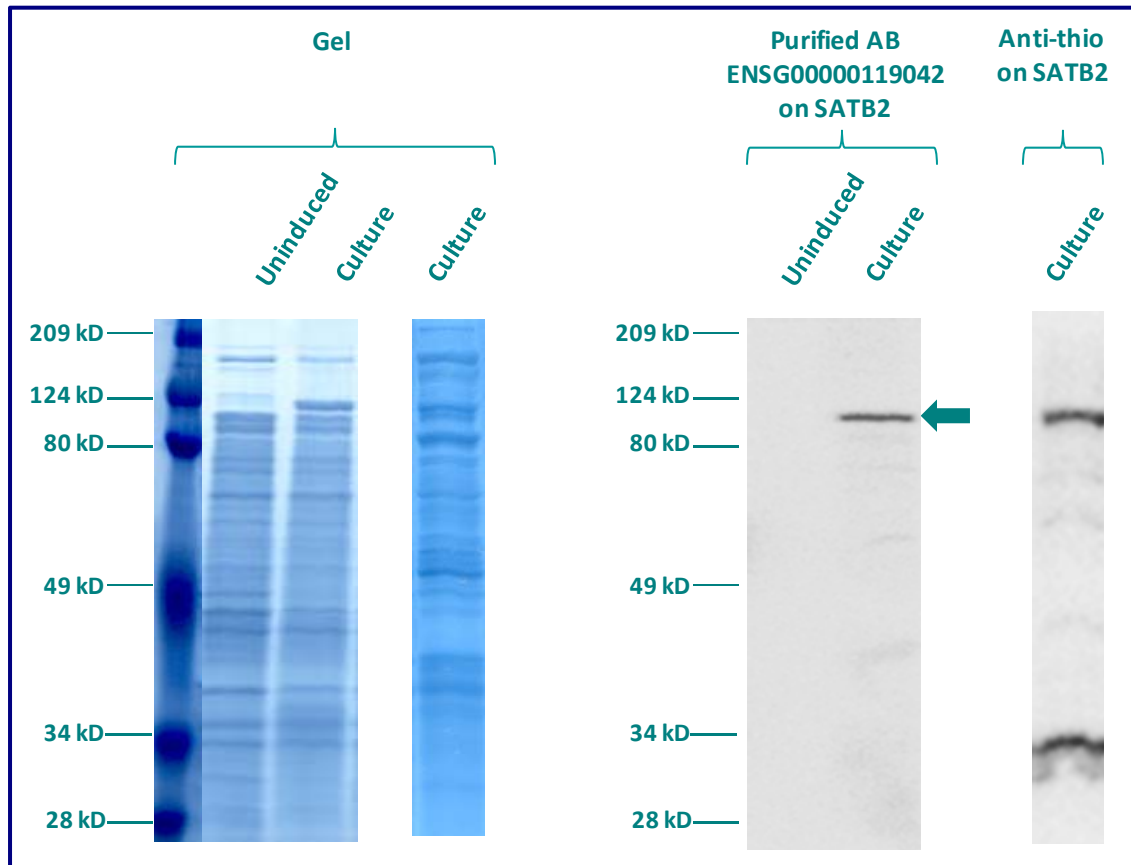
WESTERN BLOT ON RECOMBINANT PROTEIN

The purified antibody ENSG00000119042 has been tested at 1/5000 on uninduced (negative control) and induced culture of E.coli (one shot Top10 competent cells).

An anti-thio (positive control) has been tested at 1/5000 on uninduced (negative control) and induced culture of E.coli (one shot Top10 competent cells) as a positive control.

Plasmid name : pBAD-DEST49.

Molecular weight of SATB2 : 96.6kDa (82.6kDa + another 14kDa for the tag).



NOTE: The purified antibody ENSG00000119042 gave a negative result when tested at a dilution of 1:250 on the following cell line lysates (SKIN 3.44, SAOS 2, HeLa, SH-SY5Y & 293T17)

Gel concentration: 10%

Blocking: in 5% non-fat milk-PBST solution

1st Antibody: The antibodies are diluted in blocking buffer.

- Dilute the purified antibody ENSG00000119042 at 1:5000
 - Dilute the anti-thio at 1:5000
- 60 minutes of incubation

2nd Antibody: The antibody is diluted in blocking buffer.

- Dilute the anti-Rabbit IgG HRP conjugated at 1/10000
- 60 minutes of incubation

IMMUNOFLUORESCENCE ANALYSIS

Immunofluorescence analysis of DNA-binding protein SATB2 (SATB2) expression in 6 cells lines (HELA, 293T/17, Capan-2, SAOS-2, SH-SY5Y, Skin 3,44). The purified antibody ENSG00000119042 has been tested at 1/5000.

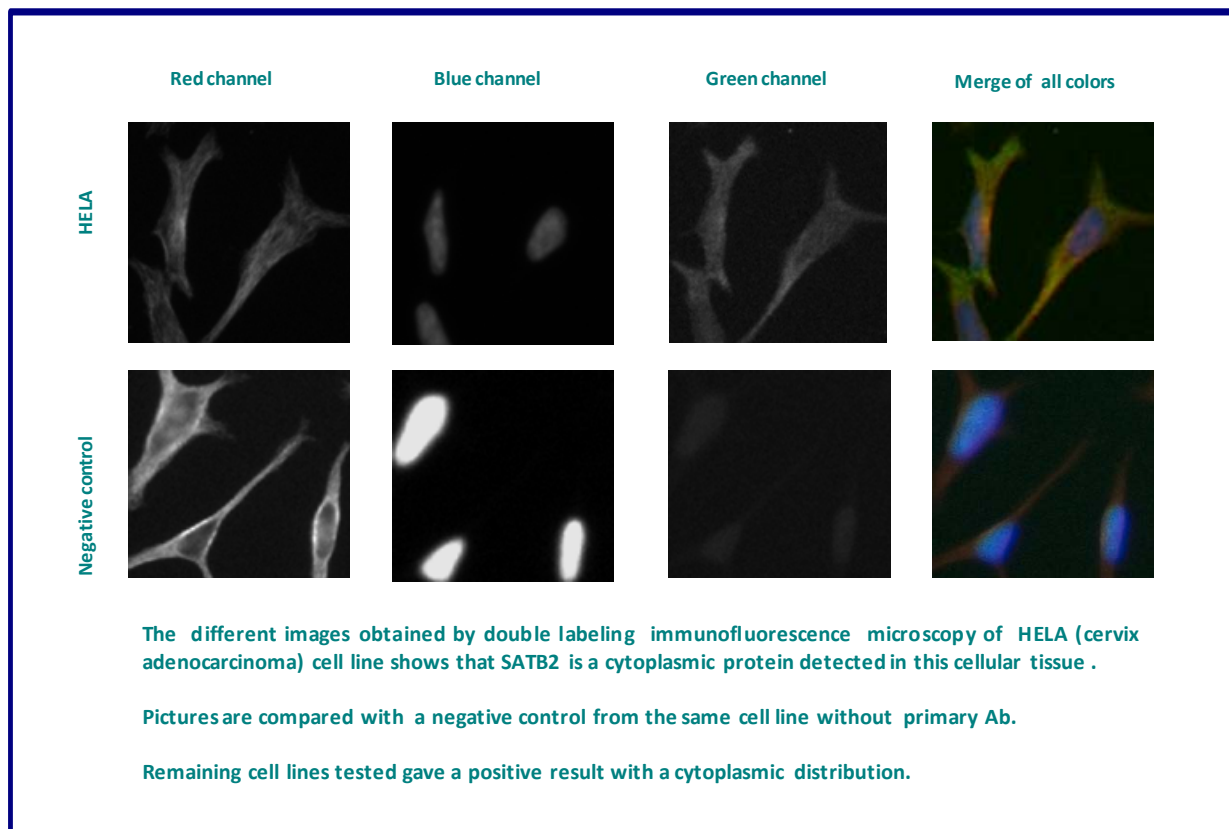
Red staining : cytoskeleton (microtubules/ α -tubuline)

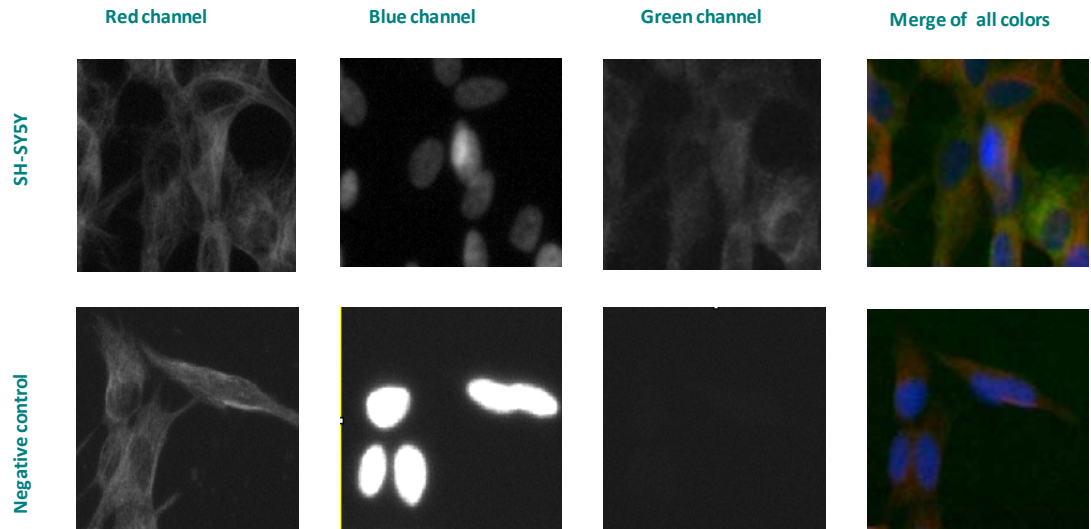
Blue staining : nucleus (Hoechst)

Green staining : anti- SATB2 antibody (purified)

Expected subcellular location : Nucleus matrix

Expected tissue specificity : High expression in adult brain, moderate expression in fetal brain, and weak expression in adult liver, kidney, and spinal cord and in select brain regions, including amygdala, corpus callosum, caudate nucleus, and hippocampus





The different images obtained by double labeling immunofluorescence microscopy of SH-SY5Y (neuroblastoma) cell line shows that SATB2 is a cytoplasmic protein detected in this cellular tissue .

Pictures are compared with a negative control from the same cell line without primary Ab.