

IVD DATA SHEET

SATB2

Concentrated Rabbit Monoclonal Antibody

Intended Use:

For in Vitro Diagnostic Use

Epitomics' Rabbit Monoclonal Anti-Human SATB2, Clone EP281, is intended for use to qualitatively identify SATB2 by light microscopy in sections of formalin-fixed, paraffin-embedded tissue using immunohistochemical detection methodology. Interpretation of any positive or negative staining must be complemented with the evaluation of proper controls and must be made within the context of the patient's clinical history and other diagnostic tests. Evaluation must be performed by a qualified pathologist.

Catalog number	Description	Dilution
AC-0268A	0.1 ml, concentrated	1:100-1:200
AC-0268B	0.5 ml, concentrated	1:100-1:200
AC-0268	1 ml, concentrated	1:100-1:200
AC-0268BULK	2 ml or more, concentrated	1:100-1:200

Immunogen: A synthetic peptide corresponding to residues of human SATB2 protein

Source: Rabbit Monoclonal Antibody

Clone ID: EP281

Isotype: Rabbit IgG

Application: Immunohistochemistry for formalin-fixed paraffin-embedded tissue

Summary and Explanation:

DNA-binding protein SATB2, also known as Special AT-rich sequence-binding protein 2, is a nuclear matrix-associated transcription factor. SATB2 acts as a docking site for chromatin remodeling enzymes and recruits co-activators and co-repressors to control nuclear gene expression. SATB2 also regulates skeletal development, osteoblast differentiation, and modulates immunoglobulin expression.

In normal tissues, strong nuclear SATB2 expression is observed in essentially all glandular cells lining the lower gastrointestinal tract, including the appendix, colon, and rectum. SATB2 is also expressed in a subset of neuronal cells from the cerebral cortex and hippocampus. In tumor tissues, SATB2 is detected in cancer cells of colorectal origin and may function as a clinically useful diagnostic marker for colorectal cancer (CRC). In a multi-cohort study with 1882 primary and metastatic CRCs, SATB2 shows high sensitivity (85%) for CRC, and further enhanced to 93% when stained in conjunction with Cytokeratin 20. A recent study showed SATB2 expression in 89% of medullary carcinomas of the large intestine. SATB2 has been suggested as a valuable prognostic marker: high SATB2 expression was determined as an independent marker of good prognosis and sensitivity to chemotherapy and radiation in CRC while loss of SATB2 expression was correlated with poor prognosis in laryngeal carcinoma patients.

Reagent Provided:

Antibody to SATB2 is affinity purified and diluted in 10 mM phosphate buffered saline (PBS), pH 7.2 containing 1% bovine serum albumin (BSA) and 0.09% sodium azide (NaN₃).

Storage and Stability:

Store at 2-8 °C. Don't use after expiration date provided on the vial. End user must validate any storage conditions other than those specified.

Procedures Recommended:

1. Pretreatment: Epitope retrieval using EDTA buffer (catalog #: SP-0004) with a pressure cooker.

2. Endogenous peroxidase block: Block for 10 minutes at room temperature using peroxidase solution (catalog #: SP-0002).

3. Protein block: Block for 10 minutes at room temperature using blocking solution (catalog #: SP-0003).

4. Primary antibody: Incubate for 30 minutes.

5. Detection: Follow instructions from the selected detection system (EpiPrecision™, a Biotin Streptavidin-HRP Detection, catalog #: DK-0001, 0003, or EpiVision™, a Rabbit Polymer Detection, catalog # DK-0002, 0004).

The antibody dilution and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory.

Performance Characteristics:

This antibody gives nucleus staining in positive cells. The recommended positive controls are colon for normal tissue and colorectal cancer for abnormal tissue.

Limitations:

Immunohistochemistry is a complex process. Variation in tissue selection, tissue processing, antigen retrieval, peroxidase activity, detection systems and improper counterstaining may cause variation in results.

References:

1. Eberhard K, et al.: *Br J Cancer*. 2012, 106(5):931-8
2. Lin F, et al.: *Arch Pathol Lab Med*. 2014, 138(8):1015-1026
3. Liu TR, et al.: *PLoS One*. 2012, 7(7):e40704
4. Magnusson K, et al.: *Am J Surg Pathol*. 2011, 35(7):937-48
5. Zhang J, et al.: *Tissue Eng Part A*. 2011, 17(13-14):1767-76

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