SANTA CRUZ BIOTECHNOLOGY, INC.

RBM38 (A-8): sc-365898

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Damage to nuclear DNA can lead to unregulated cell division and ultimately the formation of a cancerous tumor. Recognition and repair of damaged DNA is initiated by proteins, such as p53, that regulate the cell cycle. p53 is a transcription factor that induces cell cycle arrest at the G_1/S regulation point when it functions to either activate repair proteins or initiate apoptosis. One protein induced by wildtype p53 is RBM38 (RNA-binding protein 38), also known as RNPC1 or SEB4. RBM38 is a cell cycle protein found in the cytosol and the nucleus that exists as two alternatively spliced isoforms, 1 (RNPC1a) and 2 (RNPC1b), of 239 and 121 amino acids, respectively. Independent of p53 expression, RBM38 isoform 1 induces cell cycle arrest in G_1 phase through maintaining transcript stability at the 3'-UTR of p21, a regulator of cell cycle progression at S phase. RBM38 is also an mRNA splicing factor that regulates the expression of FGFR2. RBM38 contains one RRM (RNA recognition motif) domain.

REFERENCES

1. Banks, L., et al. 1986. Isolation of human-p53-specific monoclonal antibodies and their use in the studies of human p53 expression. Eur. J. Biochem. 159: 529-534.
2. Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. Cell 71: 875-886.
3. Appella, E. and Anderson, C.W. 2000. Signaling to p53: breaking the post-translational modification code. Pathol. Biol. 48: 227-245.
4. Krackhardt, A.M., et al. 2002. Identification of tumor-associated antigens in chronic lymphocytic leukemia by SEREX. Blood 100: 2123-2131.

CHROMOSOMAL LOCATION

Genetic locus: RBM38 (human) mapping to 20q13.31; Rbm38 (mouse) mapping to 2 H3.

SOURCE

RBM38 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 131-157 within an internal region of RBM38 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RBM38 (A-8) is available conjugated to agarose (sc-365898 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365898 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365898 PE), fluorescein (sc-365898 FITC), Alexa Fluor® 488 (sc-365898 AF488), Alexa Fluor® 546 (sc-365898 AF546), Alexa Fluor® 594 (sc-365898 AF594) or Alexa Fluor® 647 (sc-365898 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365898 AF680) or Alexa Fluor® 790 (sc-365898 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

RBM38 (A-8) is recommended for detection of RBM38 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).

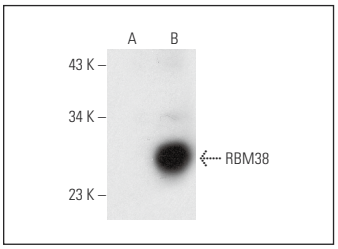
RBM38 (A-8) is also recommended for detection of RBM38 in additional species, including canine and porcine.

Suitable for use as control antibody for RBM38 siRNA (h): sc-76368, RBM38 siRNA (m): sc-152747, RBM38 shRNA Plasmid (h): sc-76368-SH, RBM38 shRNA Plasmid (m): sc-152747-SH, RBM38 shRNA (h) Lentiviral Particles: sc-76368-V and RBM38 shRNA (m) Lentiviral Particles: sc-152747-V.

Molecular Weight of RBM38 isoforms: 13/25 kDa.

Positive Controls: RBM38 (m2): 293T Lysate: sc-127449.

DATA



RBM38 (A-8): sc-365898. Western blot analysis of RBM38 expression in non-transfected: sc-117752 (**A**) and mouse RBM38 transfected: sc-127449 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Alvarez-Dominguez, J.R., et al. 2017. Widespread and dynamic translational control of red blood cell development. Blood 129: 619-629.
2. Yang, L., et al. 2018. RNPC1 inhibits non-small cell lung cancer progression via regulating miR-181a/CASC2 axis. Biotechnol. Lett. 40: 543-550.
3. Ganaie, S.S., et al. 2018. RNA binding protein RBM38 regulates expression of the 11-kilodalton protein of parvovirus B19, which facilitates viral DNA replication. J. Virol. 92: e02050-17.
4. Li, Y., et al. 2021. RNA binding Motif protein-38 regulates myocardial hypertrophy in LXR-α-dependent lipogenesis pathway. Bioengineered 12: 9655-9667.
5. Zhang, X., et al. 2022. LncRNA CALML3-AS1 suppresses papillary thyroid cancer progression via sponging miR-20a-5p/RBM38 axis. BMC Cancer 22: 344.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.