SANTA CRUZ BIOTECHNOLOGY, INC.

RBM24/38 (G-6): sc-393124

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 posttranslational 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.
5. Shu, L., et al. 2006. RNPC1, an RNA-binding protein and a target of the p53 family, is required for maintaining the stability of the basal and stress-induced p21 transcript. Genes Dev. 20: 2961-2972.

CHROMOSOMAL LOCATION

Genetic locus: RBM24 (human) mapping to 6p22.3, RBM38 (human) mapping to 20q13.31; Rbm24 (mouse) mapping to 13 A5, Rbm38 (mouse) mapping to 2 H3.

SOURCE

RBM24/38 (G-6) is a mouse monoclonal antibody raised against amino acids 26-86 mapping near the N-terminus of RBM38 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RBM24/38 (G-6) is available conjugated to agarose (sc-393124 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393124 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393124 PE), fluorescein (sc-393124 FITC), Alexa Fluor® 488 (sc-393124 AF488), Alexa Fluor® 546 (sc-393124 AF546), Alexa Fluor® 594 (sc-393124 AF594) or Alexa Fluor® 647 (sc-393124 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393124 AF680) or Alexa Fluor® 790 (sc-393124 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RBM24/38 (G-6) is recommended for detection of RBM24 and 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).

RBM24/38 (G-6) is also recommended for detection of RBM24 and RBM38 in additional species, including bovine and porcine.

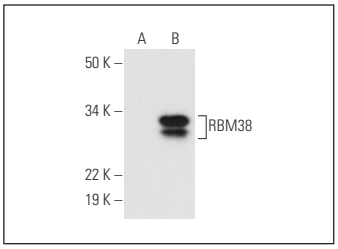
Molecular Weight of RBM38 isoforms: 13/25 kDa.

Positive Controls: RBM38 (h): 293T Lysate: sc-174921.

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



RBM24/38 (G-6): sc-393124. Western blot analysis of RBM38 expression in non-transfected: sc-117752 (**A**) and human RBM38 transfected: sc-174921 (**B**) 293T whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.