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 G₁/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 G₁ 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

- 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.
- 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.
- Krackhardt, A.M., et al. 2002. Identification of tumor-associated antigens in chronic lymphocytic leukemia by SEREX. Blood 100: 2123-2131.
- 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 μ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393124 HRP), 200 μ g/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 μ g/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 μ g/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 μ g per 100-500 μ g 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.

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