

## MRG1 (JA22): sc-21795



The Power to Question

## BACKGROUND

MRG1 (MSG1-related gene 1) is a primary response gene that shares substantial sequence similarity to the carboxy-terminal region of MSG1 (melanocyte-specific gene-1). Both MRG1 and MSG1 contain two conserved domains designated CR1 and CR2, the latter of which is required for transcriptional activation, and they appear to represent a unique family of transcription factors. MRG1 expression is induced by cytokines, including IL-1 $\alpha$ , IL-9 and GM-CSF, as well as by serum growth factors, and it is regulated by the JAK/Stat pathway. Overexpression of MRG1 induces anchorage-independent growth in soft agar, loss of cell contact inhibition and tumor formation in nude mice, suggesting that MRG1 is a transforming gene with oncogenic properties. A splice variant of MRG1, designated p35srj, is ubiquitously expressed and interacts with the p300-CH1 domain of p300/CBP, where it inhibits the interaction of p300/CBP with hypoxia-inducible factor-1 $\alpha$  (HIF-1 $\alpha$ ) to prevent HIF-1 transactivation.

## REFERENCES

- Shioda, T., et al. 1996. MSG1, a novel melanocyte-specific gene, encodes a nuclear protein and is associated with pigmentation. *Proc. Natl. Acad. Sci. USA* 93: 12298-12303.
- Shioda, T., et al. 1997. MSG1 and its related protein MRG1 share a transcription activating domain. *Gene* 204: 235-241.
- Sun, H.B., et al. 1998. MRG1, the product of a melanocyte-specific gene related gene, is a cytokine-inducible transcription factor with transformation activity. *Proc. Natl. Acad. Sci. USA* 95: 13555-13560.

## CHROMOSOMAL LOCATION

Genetic locus: CITED2 (human) mapping to 6q24.1; Cited2 (mouse) mapping to 10 A2.

## SOURCE

MRG1 (JA22) is a mouse monoclonal antibody raised against amino acids 66-270 of human MRG1, requires amino acids 66-124 for recognition.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21795 X, 200  $\mu$ g/0.1 ml.

MRG1 (JA22) is available conjugated to agarose (sc-21795 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21795 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21795 PE), fluorescein (sc-21795 FITC), Alexa Fluor<sup>®</sup> 488 (sc-21795 AF488), Alexa Fluor<sup>®</sup> 546 (sc-21795 AF546), Alexa Fluor<sup>®</sup> 594 (sc-21795 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-21795 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-21795 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-21795 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## RESEARCH USE

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

## APPLICATIONS

MRG1 (JA22) is recommended for detection of MRG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

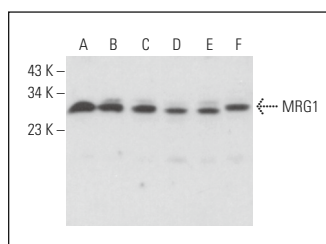
Suitable for use as control antibody for MRG1 siRNA (h): sc-35959, MRG1 siRNA (m): sc-35960, MRG1 shRNA Plasmid (h): sc-35959-SH, MRG1 shRNA Plasmid (m): sc-35960-SH, MRG1 shRNA (h) Lentiviral Particles: sc-35959-V and MRG1 shRNA (m) Lentiviral Particles: sc-35960-V.

MRG1 (JA22) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

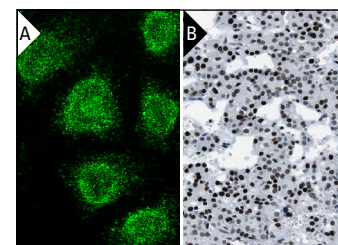
Molecular Weight of MRG1: 24/27 kDa.

Positive Controls: F9 cell lysate: sc-2245, A-375 cell lysate: sc-3811 or Hep G2 cell lysate: sc-2227.

## DATA



MRG1 (JA22): sc-21795. Western blot analysis of MRG1 expression in Jurkat nuclear extract (A) and A-375 (B), Hep G2 (C), PC-12 (D), F9 (E) and SK-MEL-24 (F) whole cell lysates.



MRG1 (JA22): sc-21795. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue showing nuclear staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

## SELECT PRODUCT CITATIONS

- Chou, Y.T., et al. 2006. Cited2 modulates TGF- $\beta$ -mediated upregulation of MMP9. *Oncogene* 25: 5547-5560.
- Saito, Y., et al. 2015. High-throughput siRNA screening to reveal GATA-2 upstream transcriptional mechanisms in hematopoietic cells. *PLoS ONE* 10: e0137079.
- Liu, L., et al. 2019. Cited2 mediates the mechanical loading-induced suppression of adipokines in the infrapatellar fat pad. *Ann. N.Y. Acad. Sci.* 1442: 153-164.
- Wang, S., et al. 2023. Role of FBXL5 in redox homeostasis and spindle assembly during oocyte maturation in mice. *FASEB J.* 37: e23080.

## STORAGE

Store at 4 $^{\circ}$  C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.