

# BRMS1 (4H7): sc-101219

## BACKGROUND

Breast cancer metastasis-suppressor 1 (BRMS1) is 246 amino acid protein that acts as a mediator of metastasis suppression in several types of cancer including ovarian, lung, bladder and murine mammary. BRMS1 mRNA is expressed in various tissues, including ovary, prostate, testis and colon, but the protein is primarily detected in term placenta. BRMS1 suppresses metastasis without inhibiting tumorigenicity by modifying several metastasis-associated phenotypes. BRMS1 may participate in transcriptional regulation by binding to the mSin3/histone deacetylase complex. The expression of BRMS1 in certain cells increases connexin Cx43 expression and reduces connexin Cx32 expression. This produces a gap junction that increases intercellular communication, similar to those found in normal breast tissue. BRMS1 is stabilized by Hsp90 and may inhibit NF $\kappa$ B activity.

## REFERENCES

1. Meehan, W.J. and Welch, D.R. 2003. Breast cancer metastasis suppressor 1: update. Clin. Exp. Metastasis 20: 45-50.
2. Meehan, W.J., et al. 2004. Breast cancer metastasis suppressor 1 (BRMS1) forms complexes with retinoblastoma-binding protein 1 (RBP1) and the mSin3 histone deacetylase complex and represses transcription. J. Biol. Chem. 279: 1562-1569.
3. Kelly, L.M., et al. 2005. Expression of the breast cancer metastasis suppressor gene, BRMS1, in human breast carcinoma: lack of correlation with metastasis to axillary lymph nodes. Tumour Biol. 26: 213-216.
4. Samant, R.S., et al. 2005. Suppression of murine mammary carcinoma metastasis by the murine ortholog of breast cancer metastasis suppressor 1 (Brms1). Cancer Lett. 235: 260-265.
5. DeWald, D.B., et al. 2005. Metastasis suppression by breast cancer metastasis suppressor 1 involves reduction of phosphoinositide signaling in MDA-MB-435 breast carcinoma cells. Cancer Res. 65: 713-717.
6. Cicek, M., et al. 2005. Breast cancer metastasis suppressor 1 inhibits gene expression by targeting nuclear factor  $\kappa$ B activity. Cancer Res. 65: 3586-3595.

## CHROMOSOMAL LOCATION

Genetic locus: BRMS1 (human) mapping to 11q13.2.

## SOURCE

BRMS1 (4H7) is a mouse monoclonal antibody raised against amino acids 1-247 representing full-length BRMS1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG $\gamma$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

BRMS1 (4H7) is recommended for detection of BRMS1 (breast cancer metastasis-suppressor 1) of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BRMS1 siRNA (h): sc-60290, BRMS1 shRNA Plasmid (h): sc-60290-SH and BRMS1 shRNA (h) Lentiviral Particles: sc-60290-V.

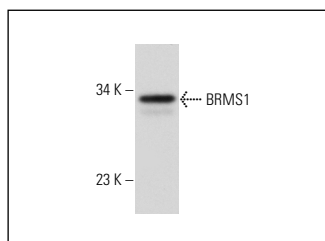
Molecular Weight of BRMS1: 28 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human liver extract: sc-363766.

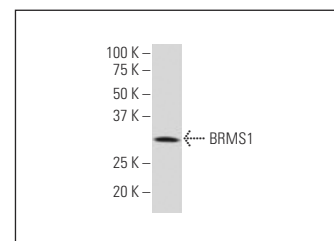
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

## DATA



BRMS1 (4H7): sc-101219. Western blot analysis of BRMS1 expression in HeLa whole cell lysate.



BRMS1 (4H7): sc-101219. Western blot analysis of BRMS1 expression in human liver tissue extract.

## SELECT PRODUCT CITATIONS

1. Aktary, Z. and Pasdar, M. 2013. Plakoglobin represses SATB1 expression and decreases *in vitro* proliferation, migration and invasion. PLoS ONE 8: e78388.
2. Zhang, Y., et al. 2014. Expression of breast cancer metastasis suppressor-1, BRMS-1, in human breast cancer and the biological impact of BRMS-1 on the migration of breast cancer cells. Anticancer Res. 34: 1417-1426.
3. Mousa, H., et al. 2019. Acquisition of invasiveness by breast adenocarcinoma cells engages established hallmarks and novel regulatory mechanisms. Cancer Genomics Proteomics 16: 505-518.
4. Zhou, C., et al. 2020. N<sup>6</sup>-methyladenosine modification of the TRIM7 positively regulates tumorigenesis and chemoresistance in osteosarcoma through ubiquitination of BRMS1. EBioMedicine 59: 102955.

## RESEARCH USE

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