SANTA CRUZ BIOTECHNOLOGY, INC.

Brm (E-1): sc-17828

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Brahma protein (Brm) is an ATPase subunit of the *Drosophila melanogaster* Brm complex, which is highly related to the mammalian SWI/SNF chromatin-remodeling complex. Brm is a transcriptional activator of Hox genes and associates with nearly all transcriptionally active chromatin in a pattern that is non-overlapping with that of Polycomb, a repressor of Hox gene transcription. The Brm complex is an essential coactivator for the trithorax group protein Zeste, a DNA-binding activator of homeotic genes. Reduction of Brm function dramatically reduces the association of RNA polymerase II with *Drosophila* salivary gland chromosomes, suggesting that the chromatin remodeling activity of the Brm complex plays a general role in facilitating transcription by RNA polymerase II. Brm acts as a dominant suppressor of the rough eye phenotype that results from a hypomorphic mutation of *Drosophila* cyclin E by inhibiting S phase entry by acting downstream of cyclin E protein accumulation. The interaction of the Brm complex with chromatin may be modulated by BAP111, which is highly associated with the Brm complex in *Drosophila* embryos via an HMG domain. Brm is highly expressed in unfertilized eggs and early embryos.

REFERENCES

1. Kal, A.J., et al. 2000. The *Drosophila* Brahma complex is an essential coactivator for the trithorax group protein zeste. Genes Dev. 14: 1058-1071.
2. Papoulas, O., et al. 2001. The HMG-domain protein BAP111 is important for the function of the Brm chromatin-remodeling complex *in vivo*. Proc. Natl. Acad. Sci. USA 98: 5728-5733.
3. Armstrong, J.A., et al. 2002. The *Drosophila* Brm complex facilitates global transcription by RNA polymerase II. EMBO J. 21: 5245-5254.

CHROMOSOMAL LOCATION

Genetic locus: SMARCA2 (human) mapping to 9p24.3; Smarca2 (mouse) mapping to 19 C1.

SOURCE

Brm (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus of Brm of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-17828 X, 200 µg/0.1 ml.

Brm (E-1) is available conjugated to agarose (sc-17828 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-17828 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Brm (E-1) is recommended for detection of Brm of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Brm (E-1) is also recommended for detection of Brm in additional species, including equine and avian.

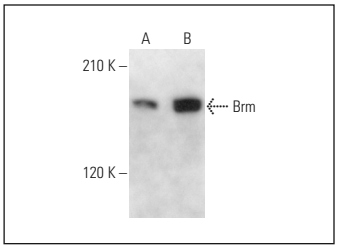
Suitable for use as control antibody for Brm siRNA (h): sc-29831, Brm siRNA (m): sc-29834, Brm shRNA Plasmid (h): sc-29831-SH, Brm shRNA Plasmid (m): sc-29834-SH, Brm shRNA (h) Lentiviral Particles: sc-29831-V and Brm shRNA (m) Lentiviral Particles: sc-29834-V.

Brm (E-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

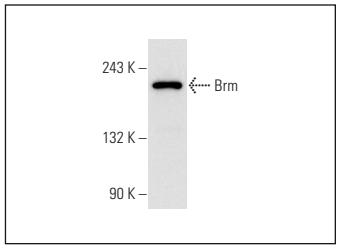
Molecular Weight of Brm: 210 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, RAW 264.7 whole cell lysate: sc-2211 or c4 whole cell lysate: sc-364186.

DATA



Brm (E-1): sc-17828. Western blot analysis of Brm expression in RAW 264.7 (**A**) and C4 (**B**) whole cell lysates.



Brm (E-1): sc-17828. Western blot analysis of Brm expression in K-562 nuclear extract.

SELECT PRODUCT CITATIONS

1. Liu, K., et al. 2004. TopBP1 recruits Brg1/Brm to repress E2F1-induced apoptosis, a novel pRb-independent and E2F1-specific control for cell survival. Genes Dev. 18: 673-686.
2. Krebner, C., et al. 2013. Functional interaction of SCAI with the SWI/SNF complex for transcription and tumor cell invasion. PLoS ONE 8: e69947.
3. Svadlenka, J., et al. 2016. Multifunctional adaptor protein Daxx interacts with chromatin-remodelling ATPase Brg1. Biochem. Biophys. Rep. 5: 246-252.
4. Yang, Y., et al. 2019. The chromatin remodeling protein Brm regulates the transcription of tight junction proteins: implication in breast cancer metastasis. Biochim. Biophys. Acta Gene Regul. Mech. 1862: 547-556.

RESEARCH USE

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