SANTA CRUZ BIOTECHNOLOGY, INC.

Brm (E-6): sc-166579

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. Brumby, A.M., et al. 2002. *Drosophila* cyclin E interacts with components of the Brahma complex. EMBO J. 21: 3377-3389.
4. 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.

SOURCE

Brm (E-6) is a mouse monoclonal antibody raised against amino acids 1531-1586 mapping at the C-terminus of Brm of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-166579 X, 200 µg/0.1 ml.

Brm (E-6) is available conjugated to agarose (sc-166579 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166579 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166579 PE), fluorescein (sc-166579 FITC), Alexa Fluor® 488 (sc-166579 AF488), Alexa Fluor® 546 (sc-166579 AF546), Alexa Fluor® 594 (sc-166579 AF594) or Alexa Fluor® 647 (sc-166579 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166579 AF680) or Alexa Fluor® 790 (sc-166579 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Brm (E-6) is recommended for detection of Brm of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

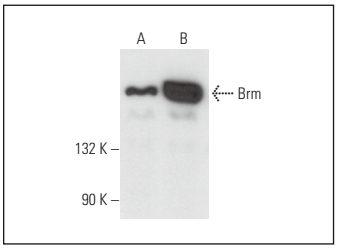
Suitable for use as control antibody for Brm siRNA (h): sc-29831, Brm shRNA Plasmid (h): sc-29831-SH and Brm shRNA (h) Lentiviral Particles: sc-29831-V.

Brm (E-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

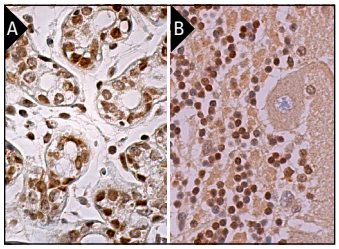
Molecular Weight of Brm: 210 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 nuclear extract: sc-2130 or THP-1 nuclear extract: sc-24963.

DATA



Brm (E-6): sc-166579. Western blot analysis of Brm expression in K-562 (**A**) and THP-1 (**B**) nuclear extracts.



Brm (E-6): sc-166579. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear staining of cells in granular layer and cells in molecular layer (**B**).

SELECT PRODUCT CITATIONS

1. Yang, M., et al. 2011. Complex alternative splicing of the smarca2 gene suggests the importance of smarca2-B variants. J. Cancer 2: 386-400.
2. Davidson, J., et al. 2018. SWI/SNF aberrations sensitize pancreatic cancer cells to DNA crosslinking agents. Oncotarget 9: 9608-9617.
3. Carcamo, S., et al. 2022. Altered BAF occupancy and transcription factor dynamics in PBAF-deficient melanoma. Cell Rep. 39: 110637.

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.