SANTA CRUZ BIOTECHNOLOGY, INC.

BRIP1 (E-11): sc-365708

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Genes that contribute to tumorigenesis can be broadly classified as either gatekeepers or caretakers. Genes in the gatekeeper class directly regulate cell division or cell death, and their alteration results in the uncontrolled cellular proliferation that characterizes tumor cells. Genes in the caretaker class are involved in DNA metabolic processes and are responsible for maintaining the overall stability of the genome. An unusual mutator phenotype in *Caenorhabditis elegans*, characterized by deletions that start around the 3' end of polyguanine tracts and terminate at variable positions 5' from such tracts, results from disruption of a gene that encodes BRIP1 (also designated BACH1 or BRCA1-associated carboxy-terminal helicase-1). BRCA1 interacts *in vivo* with BRIP1, a member of the DEAH helicase family. BRIP1 contains the seven helicase-specific motifs that are conserved among members of the DEAH family, and the helicase domain includes a nuclear localization signal. BRIP1 is ubiquitously expressed with highest levels in testis, an expression pattern similar to that of BRCA1. BRIP1 binds directly to the BRCT repeats of BRCA1 and the BRIP1-BRCA1 complex formation contributes to a key BRCA1 activity. BRIP1 is required to resolve the secondary structures of guanine-rich DNA that occasionally form during lagging-strand DNA synthesis. Phosphorylated BRIP1/BACH1 binds directly to the BRCT domain of BRCA1. This interaction is depen-dent on the phosphorylation of BRIP1/BACH1 at Ser 990, and is required for DNA damage-induced checkpoint control during the G_2 to M phase transition of the cell cycle.

CHROMOSOMAL LOCATION

Genetic locus: BRIP1 (human) mapping to 17q23.2; Brip1 (mouse) mapping to 11 C.

SOURCE

BRIP1 (E-11) is a mouse monoclonal antibody raised against amino acids 653-691 mapping within an internal region of BRIP1 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.

BRIP1 (E-11) is available conjugated to agarose (sc-365708 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365708 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365708 PE), fluorescein (sc-365708 FITC), Alexa Fluor® 488 (sc-365708 AF488), Alexa Fluor® 546 (sc-365708 AF546), Alexa Fluor® 594 (sc-365708 AF594) or Alexa Fluor® 647 (sc-365708 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365708 AF680) or Alexa Fluor® 790 (sc-365708 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

BRIP1 (E-11) is recommended for detection of BRIP1 of mouse, rat and 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).

BRIP1 (E-11) is also recommended for detection of BRIP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BRIP1 siRNA (h): sc-43640, BRIP1 siRNA (m): sc-61836, BRIP1 shRNA Plasmid (h): sc-43640-SH, BRIP1 shRNA Plasmid (m): sc-61836-SH, BRIP1 shRNA (h) Lentiviral Particles: sc-43640-V and BRIP1 shRNA (m) Lentiviral Particles: sc-61836-V.

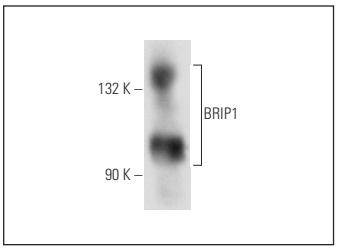
Molecular Weight of BRIP1: 140 kDa.

Positive Controls: mouse testis extract: sc-2405, K-562 whole cell lysate: sc-2203 or HeLa nuclear extract: sc-2120.

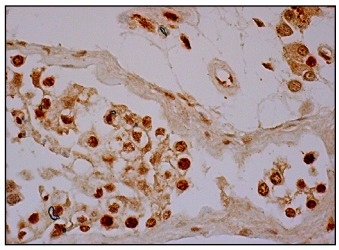
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



BRIP1 (E-11): sc-365708. Western blot analysis of BRIP1 expression in mouse testis tissue extract.



BRIP1 (E-11): sc-365708. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Lu, L.Y., et al. 2013. Regulation of the DNA damage response on male meiotic sex chromosomes. Nat. Commun. 4: 2105.

RESEARCH USE

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