SANTA CRUZ BIOTECHNOLOGY, INC.

BRCC3 (AT3B1): sc-517392

BACKGROUND

BRCC3 (BRCA1/BRCA2-containing complex subunit 3), also known as C6.1A or BRISC complex subunit BRCC36, is a 316 amino acid nuclear protein and ubiquitin E3 ligase. BRCC3 localizes to double-strand DNA breaks where acts as a metalloprotease by cleaving Lys-6-linked polyubiquitin chains to enhance cellular survival. Existing as five alternatively spliced isoforms, BRCC3 is expressed in skeletal muscle, pancreas, kidney, heart, placenta, liver, lung and brain, and is a member of the peptidase M67A family and BRCC36 subfamily. BRCC3 may play a role in G_2/M checkpoint progression, and is encoded by a gene that maps to human chromosome Xq28 and mouse chromosome X A7.3. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia, and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently as males carry a single X chromosome.

REFERENCES

1. Kenwrick, S., et al. 1992. Isolation and sequence of two genes associated with a CpG island 5' of the factor VIII gene. Hum. Mol. Genet. 1: 179-186.
2. Gianfrancesco, F., et al. 2001. Differential divergence of three human pseudoautosomal genes and their mouse homologs: implications for sex chromosome evolution. Genome Res. 11: 2095-2100.
3. Bernardino-Sgherri, J., et al. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
4. Dong, Y., et al. 2003. Regulation of BRCC, a holoenzyme complex containing BRCA1 and BRCA2, by a signalosome-like subunit and its role in DNA repair. Mol. Cell 12: 1087-1099.
5. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.
6. Boudreau, H.E., et al. 2007. Expression of BRCC3, a novel cell cycle regulated molecule, is associated with increased phospho-ERK and cell proliferation. Int. J. Mol. Med. 19: 29-39.

CHROMOSOMAL LOCATION

Genetic locus: BRCC3 (human) mapping to Xq28; Brcc3 (mouse) mapping to X A7.3.

SOURCE

BRCC3 (AT3B1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-316 of BRCC3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

STORAGE

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

APPLICATIONS

BRCC3 (AT3B1) is recommended for detection of BRCC3 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BRCC3 siRNA (h): sc-90932, BRCC3 siRNA (m): sc-141738, BRCC3 shRNA Plasmid (h): sc-90932-SH, BRCC3 shRNA Plasmid (m): sc-141738-SH, BRCC3 shRNA (h) Lentiviral Particles: sc-90932-V and BRCC3 shRNA (m) Lentiviral Particles: sc-141738-V.

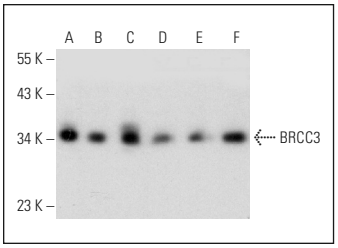
Molecular Weight of BRCC3: 36 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, MCF7 whole cell lysate: sc-2206 or RAT2 whole cell lysate: sc-364198.

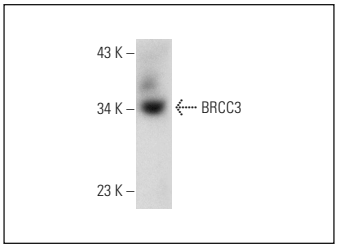
RECOMMENDED SUPPORT REAGENTS

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.

DATA



BRCC3 (AT3B1): sc-517392. Western blot analysis of BRCC3 expression in MCF7 (**A**), COLO 320DM (**B**), SCC-4 (**C**), MDA-MB-468 (**D**), NIH/3T3 (**E**) and LADMAC (**F**) whole cell lysates.



BRCC3 (AT3B1): sc-517392. Western blot analysis of BRCC3 expression in RAT2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Huang, X., et al. 2021. BRCC3 promotes activation of the NLRP6 inflammasome following cerebral ischemia/reperfusion (I/R) injury in rats. Neurosci. Lett. 756: 135954.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.