SANTA CRUZ BIOTECHNOLOGY, INC.

BRCA1 (247.56): sc-135731

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In 1990, a breast cancer susceptibility gene, designated BRCA1, was localized to chromosome 17q. Mutations within this gene are believed to account for approximately 45% of families with high incidence of breast cancer and at least 80% of families with increased incidence of both early-onset breast cancer and ovarian cancer. A second breast cancer susceptibility gene, BRCA2, located on chromosome 13q12-q13, also confers a high incidence of breast cancer but, unlike BRCA1, does not confer a substantially elevated risk of ovarian cancer. The BRCA1 gene is expressed in numerous tissues, including breast and ovary, and encodes a predicted protein of 1,863 amino acids. This protein contains a zinc-finger domain in its amino-terminal region, but is otherwise unrelated to any previously described proteins. Like many other genes involved in familial cancer, BRCA1 appears to encode a tumor suppressor, a protein that acts as a negative regulator of tumor growth.

REFERENCES

1. Hall, J.M., et al. 1990. Linkage of early-onset familial breast cancer to chromosome 17q21. Science 250: 1684-1689.
2. Narod, S.A., et al. 1991. Familial breast-ovarian cancer locus on chromosome 17q12-q23. Lancet 338: 82-83.
3. Novak, R. 1994. Breast cancer gene offers surprises. Science 265: 1796-1799.
4. Wooster, R., et al. 1994. Localization of a breast cancer susceptibility gene, BRCA2, to chromosome 13q12-13. Science 265: 2088-2090.
5. Miki, Y., et al. 1994. A strong candidate for the breast and ovarian cancer susceptibility gene BRCA1. Science 266: 66-71.
6. Futreal, P.A., et al. 1994. BRCA1 mutations in primary breast and ovarian carcinomas. Science 266: 120-122.

CHROMOSOMAL LOCATION

Genetic locus: Brca1 (mouse) mapping to 11 D.

SOURCE

BRCA1 (247.56) is a mouse monoclonal antibody raised against recombinant BRCA1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BRCA1 (247.56) is available conjugated to agarose (sc-135731 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-135731 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-135731 PE), fluorescein (sc-135731 FITC), Alexa Fluor® 488 (sc-135731 AF488), Alexa Fluor® 546 (sc-135731 AF546), Alexa Fluor® 594 (sc-135731 AF594) or Alexa Fluor® 647 (sc-135731 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-135731 AF680) or Alexa Fluor® 790 (sc-135731 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

BRCA1 (247.56) is recommended for detection of BRCA1 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BRCA1 siRNA (m): sc-29824, BRCA1 shRNA Plasmid (m): sc-29824-SH and BRCA1 shRNA (m) Lentiviral Particles: sc-29824-V.

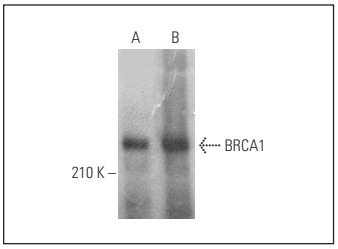
Molecular Weight of BRCA1: 220 kDa.

Positive Controls: TK-1 whole cell lysate: sc-364798, NIH/3T3 nuclear extract: sc-2138 or 3T3-L1 cell lysate: sc-2243.

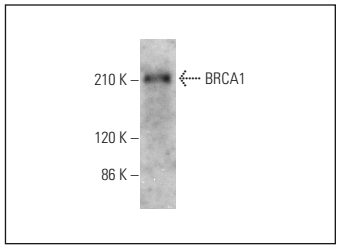
RECOMMENDED SUPPORT REAGENTS

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).

DATA



BRCA1 (247.56): sc-135731. Western blot analysis of BRCA1 expression in 3T3-L1 whole cell lysate (**A**) and NIH/3T3 nuclear extract (**B**).



BRCA1 (247.56): sc-135731. Western blot analysis of BRCA1 expression in TK-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Qin, S., et al. 2017. Calmodulin-like protein 3 is an estrogen receptor α coregulator for gene expression and drug response in a SNP, estrogen, and SERM-dependent fashion. Breast Cancer Res. 19: 95.

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. Not for resale.

PROTOCOLS

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