SANTA CRUZ BIOTECHNOLOGY, INC.

BRCA1 (C-11): sc-514797

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 13q13.1, 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. Nowak, R. 1994. Breast cancer gene offers surprises. Science 265: 1796-1769.
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.

CHROMOSOMAL LOCATION

Genetic locus: BRCA1 (human) mapping to 17q21.31.

SOURCE

BRCA1 (C-11) is a mouse monoclonal antibody raised against amino acids 1564-1863 mapping at the C-terminus of BRCA1 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.

BRCA1 (C-11) is available conjugated to agarose (sc-514797 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514797 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514797 PE), fluorescein (sc-514797 FITC), Alexa Fluor® 488 (sc-514797 AF488), Alexa Fluor® 546 (sc-514797 AF546), Alexa Fluor® 594 (sc-514797 AF594) or Alexa Fluor® 647 (sc-514797 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514797 AF680) or Alexa Fluor® 790 (sc-514797 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

BRCA1 (C-11) is recommended for detection of BRCA1 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 BRCA1 siRNA (h): sc-29219, BRCA1 shRNA Plasmid (h): sc-29219-SH and BRCA1 shRNA (h) Lentiviral Particles: sc-29219-V.

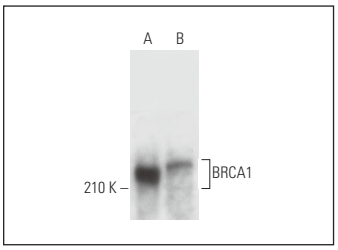
Molecular Weight of BRCA1: 220 kDa.

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

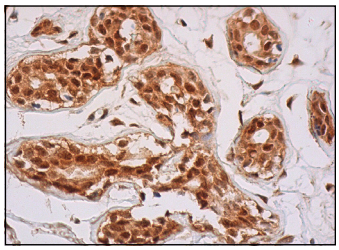
RECOMMENDED SUPPORT REAGENTS

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



BRCA1 (C-11): sc-514797. Western blot analysis of BRCA1 expression in HeLa nuclear extract (**A**) and K-562 whole cell lysate (**B**).



BRCA1 (C-11): sc-514797. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear and cytoplasmic staining of glandular cells and myoepithelial cells.

SELECT PRODUCT CITATIONS

1. Herold, S., et al. 2019. Recruitment of BRCA1 limits MYCN-driven accumulation of stalled RNA polymerase. Nature 567: 545-549.

STORAGE

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