

BRCA1 (H-100): sc-7867

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 13q12-13, 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 1863 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.

CHROMOSOMAL LOCATION

Genetic locus: BRCA1 (human) mapping to 17q21.31; Brca1 (mouse) mapping to 11 D.

SOURCE

BRCA1 (H-100) is a rabbit polyclonal antibody raised against amino acids 1-100 mapping at the N-terminus of BRCA1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BRCA1 (H-100) is recommended for detection of BRCA1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BRCA1 (H-100) is also recommended for detection of BRCA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BRCA1 siRNA (h): sc-29219, BRCA1 siRNA (m): sc-29824, BRCA1 shRNA Plasmid (h): sc-29219-SH, BRCA1 shRNA Plasmid (m): sc-29824-SH, BRCA1 shRNA (h) Lentiviral Particles: sc-29219-V and BRCA1 shRNA (m) Lentiviral Particles: sc-29824-V.

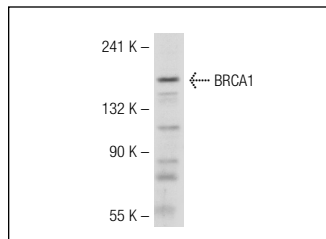
Molecular Weight of BRCA1: 220 kDa.

Positive Controls: LADMAC whole cell lysate, HeLa nuclear extract: sc-2120 or NIH/3T3 nuclear extract: sc-2138.

STORAGE

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

DATA



BRCA1 (H-100): sc-7867. Western blot analysis of BRCA1 expression in LADMAC whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kubista, M., et al. 2002. Brca1 regulates *in vitro* differentiation of mammary epithelial cells. *Oncogene* 21: 4747-4756.
2. Yan, Y., et al. 2005. BRCA1-mediated G₂/M cell cycle arrest requires ERK 1/2 kinase activation. *Oncogene* 24: 3285-3296.
3. Hu, Y., et al. 2005. Modulation of aromatase expression by BRCA1: a possible link to tissue-specific tumor suppression. *Oncogene* 24: 8343-8348.
4. Lu, Y., et al. 2007. Ubiquitination and proteasome-mediated degradation of BRCA1 and BARD1 during steroidogenesis in human ovarian granulosa cells. *Mol. Endocrinol.* 21: 651-663.
5. Wei, L., et al. 2008. Rapid recruitment of BRCA1 to DNA double-strand breaks is dependent on its association with Ku80. *Mol. Cell. Biol.* 28: 7380-7393.
6. Schayek, H., et al. 2009. Tumor suppressor BRCA1 is expressed in prostate cancer and controls Insulin-like growth factor I receptor (IGF-IR) gene transcription in an androgen receptor-dependent manner. *Clin. Cancer Res.* 15: 1558-1565.
7. El-Tanani, M.K., et al. 2010. Osteopontin can act as an effector for a germline mutation of BRCA1 in malignant transformation of breast cancer-related cells. *Cancer Sci.* 101: 1354-1360.

RESEARCH USE

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



Try **BRCA1 (D-9): sc-6954** or **BRCA1 (G-4): sc-514640**, our highly recommended monoclonal alternatives to BRCA1 (H-100). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **BRCA1 (D-9): sc-6954**.