

# BRCA1 (K-18): sc-1021

## 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 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

- Hall, J.M., et al. 1990. Linkage of early-onset familial breast cancer to chromosome 17q21. *Science* 250: 1684-1689.
- 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.

## SOURCE

BRCA1 (K-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-1021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

BRCA1 (K-18) is recommended for detection of BRCA1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BRCA1 (K-18) 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 shRNA Plasmid (h): sc-29219-SH and BRCA1 shRNA (h) Lentiviral Particles: sc-29219-V.

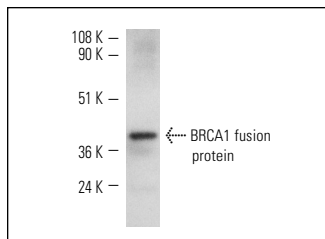
Molecular Weight of BRCA1: 220 kDa.

Positive Controls: A-431 nuclear extract: sc-2122, HeLa nuclear extract: sc-2120 or MCF7 nuclear extract: sc-2149.

## STORAGE

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

## DATA



BRCA1 (K-18): sc-1021. Western blot analysis of human recombinant BRCA1 fusion protein.

## SELECT PRODUCT CITATIONS

- De Petrocellis, L., et al. 1998. The endogenous cannabinoid anandamide inhibits human breast cancer cell proliferation. *Proc. Natl. Acad. Sci. USA* 95: 8375-8380.
- Bernard-Gallon, D.J., et al. 2002. Differential effects of n-3 and n-6 polyunsaturated fatty acids on BRCA1 and BRCA2 gene expression in breast cell lines. *Br. J. Nutr.* 87: 281-289.
- Bogdani, M., et al. 2002. Loss of nuclear BRCA1 localization in breast carcinoma is age dependent. *Virchows Arch.* 440: 274-279.
- Aglipay, J.A., et al. 2003. A member of the Pyrin family, IFI16, is a novel BRCA1-associated protein involved in the p53-mediated apoptosis pathway. *Oncogene* 22: 8931-8938.
- Baldassarre, G., et al. 2003. Negative regulation of BRCA1 gene expression by HMGA1 proteins accounts for the reduced BRCA1 protein levels in sporadic breast carcinoma. *Mol. Cell. Biol.* 23: 2225-2238.
- Hesling, C., et al. 2004. Downregulation of BRCA1 in A375 melanoma cell line increases radio-sensitivity and modifies metastatic and angiogenic gene expression. *J. Invest. Dermatol.* 122: 369-380.
- Tulchin, N., et al. 2010. BRCA1 protein and nucleolin colocalize in breast carcinoma tissue and cancer cell lines. *Am. J. Pathol.* 176: 1203-1214.

## RESEARCH USE

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


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Try **BRCA1 (D-9): sc-6954** or **BRCA1 (G-4): sc-514640**, our highly recommended monoclonal alternatives to BRCA1 (K-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **BRCA1 (D-9): sc-6954**.