

BRCA1 (D-20): sc-641

BACKGROUND

In 1990, a breast cancer susceptibility gene designated BRCA1 was localized to chromosome 17q21.31. 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.

CHROMOSOMAL LOCATION

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

SOURCE

BRCA1 (D-20) is an affinity purified rabbit polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-641 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BRCA1 (D-20) is recommended for detection of BRCA1 of human and, to a lesser extent, 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)], 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); non cross-reactive with BRCA2 or EGFR.

BRCA1 (D-20) is also recommended for detection of BRCA1 in additional species, including equine, canine and bovine.

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.

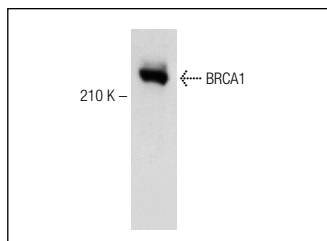
STORAGE

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

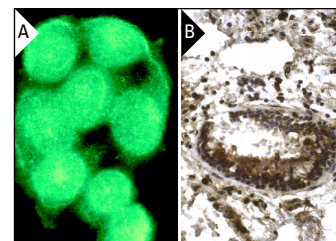
RESEARCH USE

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

DATA



BRCA1 (D-20): sc-641. Western blot analysis of BRCA1 expression in mouse embryo tissue extract.



BRCA1 (D-20): sc-641. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells and interstitial cells (B).

SELECT PRODUCT CITATIONS

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- Perez-Valles, A., et al. 2001. The usefulness of antibodies to the BRCA1 protein in detecting the mutated BRCA1 gene. An immunohistochemical study. *J. Clin. Pathol.* 54: 476-480.
- Bogdani, M., et al. 2002. Loss of nuclear BRCA1 localization in breast carcinoma is age dependent. *Virchows Arch.* 440: 274-279.
- Quinn, J.E., et al. 2003. BRCA1 functions as a differential modulator of chemotherapy-induced apoptosis. *Cancer Res.* 63: 6221-6228.
- De Brakeleer, S., et al. 2007. Loss of nuclear BRCA1 protein staining in normal tissue cells derived from BRCA1 and BRCA2 mutation carriers. *Mutat. Res.* 619: 104-112.
- Luo, Y., et al. 2011. High efficiency of BRCA1 knockout using rAAV-mediated gene targeting: developing a pig model for breast cancer. *Transgenic Res.* 20: 975-988.
- Qin, Y., et al. 2011. Ubc9 mediates nuclear localization and growth suppression of BRCA1 and BRCA1a proteins. *J. Cell. Physiol.* 226: 3355-3367.


 MONOS
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Try **BRCA1 (D-9): sc-6954** or **BRCA1 (G-4): sc-514640**, our highly recommended monoclonal alternatives to BRCA1 (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **BRCA1 (D-9): sc-6954**.