

BRCA1 (287.17): sc-135732

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

BRCA1 (287.17) 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.

APPLICATIONS

BRCA1 (287.17) 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), 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 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: NIH/3T3 nuclear extract: sc-2138 or 3T3-L1 cell lysate: sc-2243.

STORAGE

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

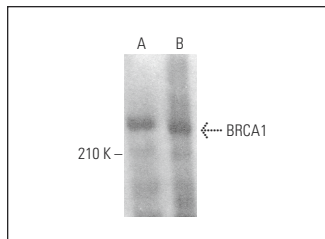
PROTOCOLS

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

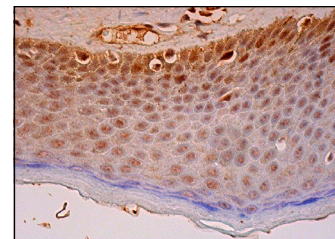
RESEARCH USE

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

DATA



BRCA1 (287.17): sc-135732. Western blot analysis of BRCA1 expression in 3T3-L1 whole cell lysate (A) and NIH/3T3 nuclear extract (B).



BRCA1 (287.17): sc-135732. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing nuclear and cytoplasmic staining of epidermal cells.

SELECT PRODUCT CITATIONS

- Das, A., et al. 2013. Lamin A Δ exon9 mutation leads to telomere and chromatin defects but not genomic instability. *Nucleus* 4: 410-419.
- Grzesiak, M., et al. 2014. Androgen deficiency during mid- and late pregnancy alters progesterone production and metabolism in the porcine corpus luteum. *Reprod. Sci.* 21: 778-790.
- Choi, Y.S., et al. 2018. Association between impairment of DNA double strand break repair and decreased ovarian reserve in patients with endometriosis. *Front. Endocrinol.* 9: 772.
- Hu, L., et al. 2020. A novel M phase blocker, DCZ3301 enhances the sensitivity of bortezomib in resistant multiple myeloma through DNA damage and mitotic catastrophe. *J. Exp. Clin. Cancer Res.* 39: 105.
- Yang, J., et al. 2021. BRCA1 antibodies matter. *Int. J. Biol. Sci.* 17: 3239-3254.
- Zhuang, J., et al. 2022. Brca1 is regulated by the transcription factor Gata3, and its silencing promotes neural differentiation in retinal neurons. *Int. J. Mol. Sci.* 23: 13860.
- Wu, B., et al. 2023. BRCA1 deficiency in mature CD8⁺ T lymphocytes impairs antitumor immunity. *J. Immunother. Cancer* 11: e005852.
- Leung, E., et al. 2023. BRCA1 heterozygosity promotes DNA damage-induced senescence in a sex-specific manner following repeated mild traumatic brain injury. *Front. Neurosci.* 17: 1225226.
- Poblano-Bata, J., et al. 2024. Toxicological effects of solvent-extracted organic matter associated with PM2.5 on human bronchial epithelial cell line NL-20. *Chemosphere* 362: 142622.



See **BRCA1 (247.56): sc-135731** for BRCA1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.