SANTA CRUZ BIOTECHNOLOGY, INC.

# BARD1 (2059C4a): sc-81195

## BACKGROUND

Mutations within the BRCA1 gene, localized to chromosome 17q, are believed to account for approximately 45% of families with increased incidence of both early-onset breast cancer and 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 RING domain near the N-terminus and appears to encode a tumor suppressor. BARD1 (BRCA1-associated RING domain protein 1) and BAP1 (BRCA1-associated protein 1) have both been shown to bind to the N-terminus of BRCA1 and are potential mediators of tumor suppression. BARD1 contains an N-terminal RING domain and three tandem ankyrin repeats. The C-terminus of BARD1 contains a region with sequence homology to BRCA1, termed the BRCT domain. BAP1 is a ubiquitin hydrolase and has been shown to enhance BRCA1-mediated cell growth suppression.

## 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. Novak, R. 1994. Breast cancer gene offers surprises. Science 265: 1796-1799.
4. Futreal, P.A., et al. 1994. BRCA1 mutations in primary breast and ovarian carcinomas. Science 266: 120-122.
5. Wu, L.C., et al. 1996. Identification of a RING protein that can interact *in vivo* with the BRCA1 gene product. Nat. Genet. 14: 430-440.
6. Jin, Y., et al. 1997. Cell cycle-dependent co-localization of BARD1 and BRCA1 proteins in discrete nuclear domains. Proc. Natl. Acad. Sci. USA 94: 12075-12080.
7. Jensen, D.E., et al. 1998. BAP1: a novel ubiquitin hydrolase which binds to the BRCA1 RING finger and enhances BRCA1-mediated cell growth suppression. Oncogene 16: 1097-1112.
8. Thai, T.H., et al. 1998. Mutations in the BRCA1-associated RING domain (BARD1) gene in primary breast, ovarian and uterine cancers. Hum. Mol. Genet. 7: 195-202.
9. Huo, X. et al. 2007. Common non-synonymous polymorphisms in the BRCA1 Associated RING Domain (BARD1) gene are associated with breast cancer susceptibility: a case-control analysis. Breast Cancer Res. Treat. 102: 329-337.


## 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 or our catalog for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: BARD1 (human) mapping to 2q35;.

## SOURCE

BARD1 (2059C4a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of BARD1 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% BSA.

## APPLICATIONS

BARD1 (2059C4a) is recommended for detection of BARD1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for BARD1 siRNA (h): sc-37311.

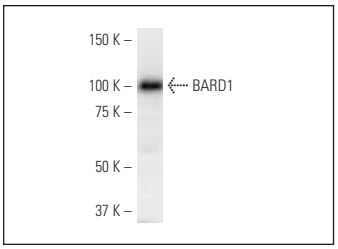
Molecular Weight of BARD1: 79 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, HEX293 whole cell lysate or MCF7 whole cell lysate: sc-2206.

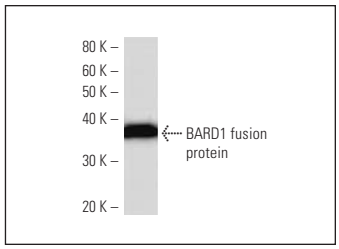
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA




BARD1 (2059C4a): sc-81195. Western Blot analysis of BARD1 expression in HEX293 whole cell lysate.




BARD1 (2059C4a): sc-81195. Western Blot analysis of human recombinant BARD1 fusion protein.

## RESEARCH USE

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