

# p-BRCA1 (Ser 1423): sc-101647

## 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. Narod, S.A., et al. 1991. Familial breast-ovarian cancer locus on chromosome 17q12-q23. *Lancet* 338: 82-83.
3. Miki, Y., et al. 1994. A strong candidate for the breast and ovarian cancer susceptibility gene BRCA1. *Science* 266: 66-71.
2. Futreal, P.A., et al. 1994. BRCA1 mutations in primary breast and ovarian carcinomas. *Science* 266: 120-122.
4. Choi, DH. et al. 2006. Double heterozygotes for non-Caucasian families with mutations in BRCA1 and BRCA2 genes. *Breast J.* 12: 216-220.
5. Elmariah, SB. et al. 2006. Multicentric glioblastoma multiforme in a patient with BRCA1 invasive breast cancer. *Breast J.* 12: 470-474.
6. Pal, A. et al. 2006. Synthesis and characterization of SERS gene probe for BRCA1 (breast cancer). *Faraday Discuss.* 132: 293-301.
7. Wiwanitkit, V. et al. 2006. Interaction between BRCA1 and human papilloma virus E7: an ontology study. *Arch. Gynecol. Obstet.* 274: 146-149.
8. Musolino, A. et al. 2007. BRCA mutations, molecular markers, and clinical variables in early-onset breast cancer: A population-based study. *Breast* 16: 280-292.
9. Kadouri, L. et al. 2007. A novel BRCA1 mutation in Arab kindred from east Jerusalem with breast and ovarian cancer. *BMC Cancer.* 7: 14.

## CHROMOSOMAL LOCATION

Genetic locus: BRCA1 (human) mapping to 17q21.31.

## SOURCE

p-BRCA1 (Ser 1423) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 1423 of BRCA1 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-BRCA1 (Ser 1423) is recommended for detection of Ser 1423 phosphorylated BRCA1 of 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for BRCA1 siRNA (h): sc-29219.

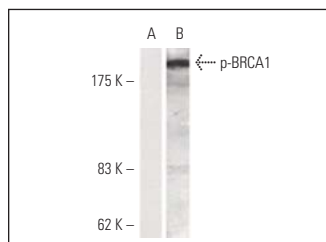
Molecular Weight of p-BRCA1: 220 kDa.

Positive Controls: K-562 + UV cell lysate: sc-24724 or human breast carcinoma tissue.

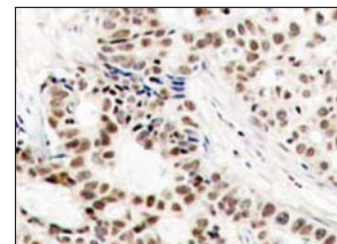
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



Western blot analysis of phosphorylated BRCA1 expression in UV-treated K-562 whole cell lysate (A,B). Blots were probed with p-BRCA1 (Ser 1423): sc-101647 preincubated with cognate phosphorylated peptide (A) and p-BRCA1 (Ser 1423): sc-101647 (B).



p-BRCA1 (Ser 1423): sc-101647. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic staining.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.