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

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: 1:200-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2033 (dilution range: 1:200-1:5000), 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-2033 (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-2033 (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 and p-BRCA1 (Ser 1423): sc-101647 (preincubated with cognate phosphorylated peptide).

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 website at www.scbt.com or our catalog for detailed protocols and support products.