SANTA CRUZ BIOTECHNOLOGY, INC.

p-BRCA1 (Ser 988): sc-12888

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BRCA1 is a cell cycle-regulated nuclear protein that is phosphorylated mainly on serine and to a lesser extent on threonine residues. Changes in phosphorylation occur in response to cell cycle progression and DNA damage. BRCA1 undergoes hyperphosphorylation during late G_1 and S phases of the cell cycle. BRCA1 is a substrate of ATM kinase, and phosphorylation of BRCA1 requires the presence of a functional ATM protein. Chk2 regulates BRCA1 function after DNA damage by phosphorylating serine 988 of BRCA1. This phosphorylation is required for the release of BRCA1 from Chk2 and the ability of BRCA1 to restore survival after DNA damage. BRCA1 is also phosphorylated at serine 1497, which is part of a cyclin-dependent kinase consensus site.

CHROMOSOMAL LOCATION

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

SOURCE

p-BRCA1 (Ser 988) is available as either goat (sc-12888) or rabbit (sc-12888-R) affinity purified polyclonal antibody raised against a short amino acid sequence containing Ser 988 phosphorylated BRCA1 of human origin.

PRODUCT

Each vial contains either 100 µg (sc-12888) or 200 µg (sc-12888-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12888 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-BRCA1 (Ser 988) is recommended for detection of Ser 988 phosphorylated BRCA1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

p-BRCA1 (Ser 988) is also recommended for detection of correspondingly phosphorylated BRCA1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for BRCA1 siRNA (h): sc-29219, BRCA1 shRNA Plasmid (h): sc-29219-SH and BRCA1 shRNA (h) Lentiviral Particles: sc-29219-V.

Molecular Weight of p-BRCA1: 220 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa + UV cell lysate: sc-2221 or K-562 + UV cell lysate: sc-24724.

RESEARCH USE

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

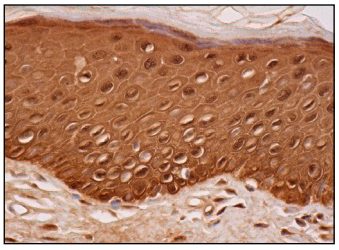
PROTOCOLS

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

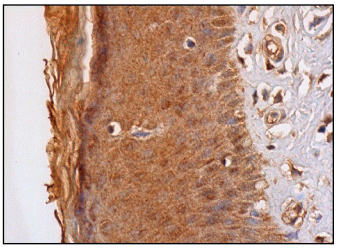
STORAGE

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

DATA



p-BRCA1 (Ser 988): sc-12888-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing nuclear and cytoplasmic staining of epidermal cells.



p-BRCA1 (Ser 988): sc-12888. Immunoperoxidase staining of formalin fixed, paraffin-embedded vulva/anal skin tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Coene, E.D., et al. 2005. Phosphorylated BRCA1 is predominantly located in the nucleus and mitochondria. Mol. Biol. Cell 16: 9997-11010.
2. Kwak, E.L., et al. 2006. Mammary tumorigenesis following transgenic expression of a dominant negative Chk2 mutant. Cancer Res. 66: 1923-1928.
3. Inoue, Y., et al. 2007. Phosphorylation of pRB at Ser 612 by Chk1/2 leads to a complex between pRB and E2F-1 after DNA damage. EMBO J. 26: 2083-2093.
4. Chabalier-Taste, C., et al. 2008. BRCA1 is regulated by Chk2 in response to spindle damage. Biochim. Biophys. Acta 1783: 2223-2233.
5. Yeh, Y.H., et al. 2009. The cell cycle checkpoint kinase Chk2 mediates DNA damage-induced stabilization of TTK/hMps1. Oncogene 28: 1366-1378.
6. Zoppoli, G., et al. 2012. CHEK2 genomic and proteomic analyses reveal genetic inactivation or endogenous activation across the 60 cell lines of the US national cancer institute. Oncogene 31: 403-418.