

BRCA2 (H-300): sc-8326

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 (breast cancer 2, early onset), 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. Both BRCA1 and BRCA2 play a role in the maintenance of genome stability, particularly in the homologous recombination pathway for double-strand DNA repair. BRCA2 is regarded as a tumor suppressor gene; tumors with BRCA2 mutations exhibit loss of heterozygosity (LOH) of the wildtype allele. The protein encoded by the BRCA2 gene contains multiple copies of a 70 amino acid motif called the BRC motif. These motifs effect binding to the Rad51 recombinase, which operates in DNA repair.

CHROMOSOMAL LOCATION

Genetic locus: BRCA2 (human) mapping to 13q13.1; Brca2 (mouse) mapping to 5 G3.

SOURCE

BRCA2 (H-300) is a rabbit polyclonal antibody raised against amino acids 2520-2819 mapping within an internal region of BRCA2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BRCA2 (H-300) is recommended for detection of BRCA2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BRCA2 (H-300) is also recommended for detection of BRCA2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for BRCA2 siRNA (h): sc-29825, BRCA2 siRNA (m): sc-29826, BRCA2 shRNA Plasmid (h): sc-29825-SH, BRCA2 shRNA Plasmid (m): sc-29826-SH, BRCA2 shRNA (h) Lentiviral Particles: sc-29825-V and BRCA2 shRNA (m) Lentiviral Particles: sc-29826-V.

Molecular Weight of BRCA2: 390 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, ZR-75-1 cell lysate: sc-2241 or A-431 whole cell lysate: sc-2201.

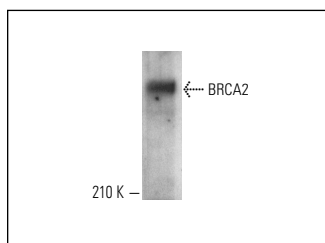
STORAGE

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

RESEARCH USE

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

DATA



BRCA2 (H-300): sc-8326. Western blot analysis of BRCA2 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Cuconati, A., et al. 2002. Bak and Bax function to limit adenovirus replication through apoptosis induction. *J. Virol.* 76: 4547-4558.
2. Moro, L., et al. 2005. Downregulation of BRCA2 expression by collagen type I promotes prostate cancer cell proliferation. *J. Biol. Chem.* 280: 22482-22491.
3. Moro, L., et al. 2006. Up-regulation of Skp2 after prostate cancer cell adhesion to basement membranes results in BRCA2 degradation and cell proliferation. *J. Biol. Chem.* 281: 22100-22107.
4. Nakanishi, A., et al. 2007. Interference with BRCA2, which localizes to the centrosome during S and early M phase, leads to abnormal nuclear division. *Biochem. Biophys. Res. Commun.* 355: 34-40.
5. Tapias, A., et al. 2008. Regulation of Sp1 by cell cycle related proteins. *Cell Cycle* 7: 2856-2867.
6. Swisher, E.M., et al. 2009. Methylation and protein expression of DNA repair genes: association with chemotherapy exposure and survival in sporadic ovarian and peritoneal carcinomas. *Mol. Cancer* 8: 48.
7. Bosviel, R., et al. 2012. Epigenetic modulation of BRCA1 and BRCA2 gene expression by equol in breast cancer cell lines. *Br. J. Nutr.* 108: 1187-1193.
8. Bosviel, R., et al. 2012. Can soy phytoestrogens decrease DNA methylation in BRCA1 and BRCA2 oncosuppressor genes in breast cancer? *OMICS* 16: 235-244.
9. Weaver, A.N., et al. 2015. DNA double strand break repair defect and sensitivity to poly ADP-ribose polymerase (PARP) inhibition in human papillomavirus 16-positive head and neck squamous cell carcinoma. *Oncotarget* 6: 26995-27007.

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