



## ***DB112 BRCA1 (C21)***

The breast cancer susceptibility gene 1 (BRCA1) gene was isolated in 1994. Mutations of the gene, a tumor suppressor, are associated with an increased risk for breast, ovarian, and prostate cancers. (1) Point mutations in critical domains and frameshift mutations that lead to early termination of protein translation are associated with a 60-80% risk of breast cancer and a 20-40% risk of ovarian cancer in some studies. (2) BRCA1 is highly polymorphic with more than 1,200 distinct documented variants. Approximately 70% of reported variants lead to absence of full-length BRCA1 protein and are suspected to predispose to cancer. (3) BRCA1 contains several functional domains that directly or indirectly interact with a variety of proteins via protein-protein interaction; these include tumor suppressors (BRCA2, p53, Rb and ATM), oncogenes (c-Myc, casein kinase II and E2F), DNA damage repair proteins (RAD50 and RAD51), cell cycle regulators (cyclins and cyclin dependent kinases), transcriptional activators and repressors (RNA polymerase II, RHA, histone deacetylase complex and CtIP), DNA damage-sensing complex and mismatch repair proteins (BRCA1- Associated Surveillance Complex; BASC) and signal transducer and activator of transcription (STAT). BRCA1 plays a significant role in maintaining genomic stability and serves as a tumor suppressor in breast cancer tumorigenesis. (4)

### **Origin:**

BRCA1 (C21) is an affinity purified rabbit polyclonal antibody, raised against a peptide mapping to the carboxy terminus of human BRCA1.

### **Product Details:**

Each vial contains 200 µg/ml of affinity purified rabbit IgG, BRCA1 (C21), in 1 ml PBS containing 0.1 % sodium azide and 0.2% gelatin.

### **Competition Studies:**

A blocking peptide is also available, *DB112P*, for use in competition studies. Each vial contains 100 µg of peptide in 0.5 ml PBS with 0.1% sodium azide and 100 µg BSA.

### **Specificity:**

BRCA1 (C21) DB112 reacts with BRCA1 of human, mouse and rat origin.

### **Use:**

Western blotting, immunoprecipitation, and immunohistochemistry.  
Western blotting starting dilution: 1:200.

### **Storage:**

Store this product at 4° C, do not freeze. The product is stable for one year from the date of shipment.

### **References:**

1. Bae I, Fan S, Meng Q, Rih JK, Kim HJ, Kang HJ, Xu J, Goldberg ID, Jaiswal AK, Rosen EM. BRCA1 Induces Antioxidant Gene Expression and Resistance to Oxidative Stress. *Cancer Res.* 2004 Nov 1;64(21):7893-7909.
2. Brose MS, Volpe P, Paul K, Stopfer JE, Colligon TA, Calzone KA, Weber BL. Characterization of two novel BRCA1 germ-line mutations involving splice donor sites. *Genet Test.* 2004 Summer;8(2):133-8.
3. Szabo CI, Worley T, Monteiro AN. Understanding Germ-Line Mutations in BRCA1. *Cancer Biol Ther.* 2004 Jun;3(6):515-20.
4. Jhanwar-Uniyal M. BRCA1 in cancer, cell cycle and genomic stability. *Front Biosci.* 2003 Sep 01;8:s1107-17.