TECHNICAL DATA SHEET

PRODUCT NAME Human BRCA1 promoter Primer Pairs			
Official full name: breast cancer 1, early onset **Other name:** breast and ovarian cancer susceptibility protein 1; BRCA1/BRCA2-containing complex, subunit1 **Primary source:** HGNC:1100			
Cat. No: pp-1038-050	**Size:** 50 µl	**Concentration:** 10 µM	**Lot #:** 001
Cat. No: pp-1038-500	**Size:** 500 µl	**Concentration:** 10 µM	**Lot #:** 001

10 sets of our primer pairs: 50 µl (see our list)
500 µl

Description: The primer pair cat:# pp-1038 (-050, -500) is specific to a promoter region in the human BRCA1 gene. These primers can be used to amplify DNA isolated by chromatin immunoprecipitation (ChIP). Primers are optimized to be used in quantitative polymerase chain reaction (qPCR) (**Figures 1, 2**). See overview below.

Expected PCR product size: 71 base pairs (bp).

Amplified locus: chr17:38530919-38530989

Specificity: Human: positive
Other species: not tested

Format: In solution in MiliQ water at the concentration of 10 µM (each oligonucleotide primer is at the final concentration of 5 µM).

Storage: For long storage, store at -20°C. Avoid multiple freeze-thaw cycles.

Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

References: [1] Evans DG, Bulman M, Young K, Howard E, Bayliss S, Wallace A, Lalloo F. (2008) Fam Cancer.;7(2):113-7.
[2] Tapia T, Smalley SV, Kohen P, Muñoz A, Solis LM, Corvalan A, Faundez P, Devoto L,Camus M, Alvarez M, Carvallo P. (2008) Epigenetics. May-Jun;3(3):157-63.

Availability date: October 1, 2008

Last data sheet update: October 30, 2008

Lot #: 002/ day of synthesis: August 20, 2008/ day of QC: September 25, 2008/aliquoting day: September 30, 2008

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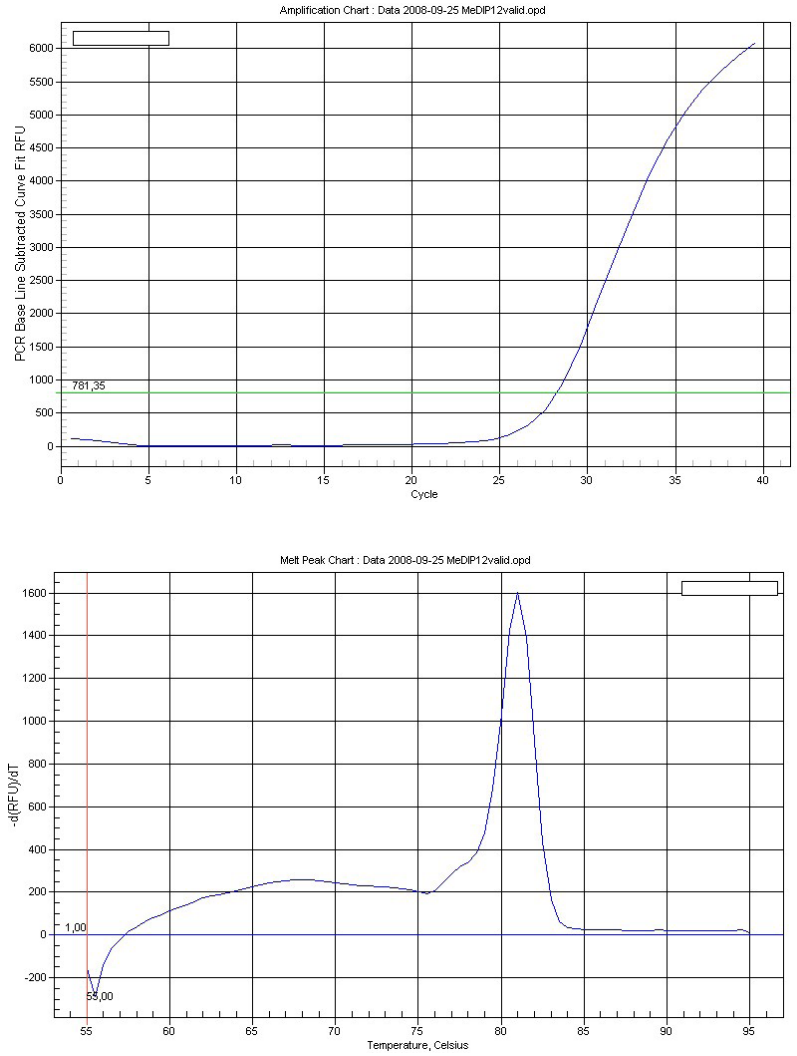

Figure 1

A fragment from the promoter region of human BRCA1 gene located at chr17:38530919-38530989 was amplified using the Diagenode primers (cat#: pp-1038-050, -500). PCR was run with 50 ng of human genomic DNA from U2OS cell line in 25 µl of final volume with 1 µl of provided primers. PCR conditions were as follows: 95°C for 3 min, 40 cycles of [95°C for 1 min, 60°C for 1 min, 72°C for 1 min] and 1 cycle at 72°C for 2 min. The amplification chart is presented in the upper panel with threshold position in blue. The melting curve is presented in the bottom panel.

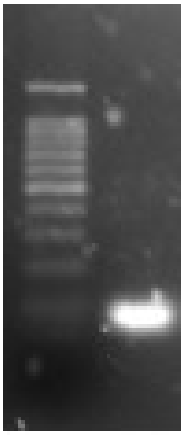

Figure 2
PCR product amplified with the Diagenode primers (cat#: pp-1038-050, -500) as described in Figure 1 was analysed by electrophoresis (2% agarose gel stained with SYBR Safe). The left line shows the 100 bp molecular weight ladder. The right line shows the amplified region from the promoter of human BRCA1 gene (71 bp).

Overview: This gene encodes a nuclear phosphoprotein that plays a role in maintaining genomic stability and acts as a tumor suppressor. The encoded protein combines with other tumor suppressors, DNA damage sensors, and signal transducers to form a large multi-subunit protein complex known as BASC for BRCA1-associated genome surveillance complex. This gene product associates with RNA polymerase II, and through the C-terminal domain, also interacts with histone deacetylase complex. This protein thus plays a role in transcription, DNA repair of double-stranded breaks, and recombination. Mutations in this gene are responsible for approximately 40% of inherited breast cancers and more than 80% of inherited breast and ovarian cancers. Alternative splicing plays a role in modulating the subcellular localization and physiological function of this gene. Many alternatively spliced transcript variants have been described for this gene but only some have had their full-length natures identified.