

# User's Manual

**Product: BRCA2 Primer Pair**

**Catalog Number: I2210862**

**Description:** BRCA2 (Breast Cancer 2, Unigene ID: Hs.34012) is a tumor susceptibility gene. Like BRCA1, mutations BRCA2 have been linked to an elevated risk of young onset breast cancer which has been demonstrated to be due to the inheritance of dominant susceptibility genes conferring a high risk of the disease. BRCA2 mutations are typically microdeletions. BRCA2 putatively functions as a tumor suppressor gene; however, its exact function has not been well characterized. The similarity and functional analysis of BRCA2 and BRCA1 proteins suggests that these proteins function in the same genetic pathway. BRCA1 and BRCA2 have transcriptional activation potential and the two proteins are associated with the activation of double-strand break repair and/or homologous recombination. The two proteins have been shown to coexist and colocalize in a biochemical complex. One founder mutation in BRCA2 has been observed among Ashkenazi women : 6174delT [1]. BioChain provides primers for detecting this founder mutation using high resolution melting curve analysis.

## Applications

- BRCA2 Mutation Analysis
- Genetic Testing
- Risk Assessment for Breast Cancer

## Quality Control

Primer set will generate 150 bp PCR fragment

## Components

BRCA1 Primer Pairs: Reagents are sufficient for 25 tests.

50 µl 5' Primer at 5 µM concentration

50 µl 3' Primer at 5 µM concentration

## Storage and Stability

Store at -20 °C. The primers are stable for one year when handled properly.

## Related Products

BRCA1 Primer Pairs (Cat# I2210861)

## PCR Protocol:

PCR Template	x µl
10 x PCR Buffer	5 µl
10 mM dNTP	2 µl
5' primer (5 µM)	2 µl
3' primer (5 µM)	2 µl
Taq Polymerase(5 u/µl)	0.5 µl
H <sub>2</sub> O, Nuclease-free	x µl
Total	50 µl

## PCR Program

95°C x 2 minutes followed by 35 cycles of 95°C x 30 seconds, 55°C x 30 seconds, 72°C x 30 seconds; then 72°C x 5 minutes. Hold at 4°C in the end.

A 150 bp PCR products of 6174delT should be observed. Purify the PCR product and digest it with BbrPI, the normal allele gave 127-bp and 21-bp fragments; the mutant allele is not cut by BbrPI. In heterozygotes of the 6174delT mutation, two bands of 147 bp and 127 bp were seen.

## References

1. Abeliovich et al. The Founder Mutations 185delAG and 5382insC in BRCA1 and 6174delT in BRCA2 Appear in 60% of Ovarian Cancer and 30% of Early-Onset Breast Cancer Patients among Ashkenazi Women. Am. J. Hum. Genet. 60:505-514, 1997.

**BioChain Institute, Inc.**

Tel: 888-783-8588 Fax: 510-783-5386 E-mail: cs@biochain.com Website: www.biochain.com