

## User's Manual

**Product: BRCA1 Primer Pairs**

**Catalog Number: I2210861**

**Description:** BRCA1 (Breast Cancer 1 Unigene ID: Hs.194143) is a tumor susceptibility gene that was first identified in 1994. Mutations in this gene are responsible for approximately 40% of inherited breast cancers and more than 80% of inherited breast and ovarian cancers. The normal gene plays a role in repairing breaks in DNA. However, when the gene is mutated it is thought that this repair function may become disabled thus leading to more DNA replication errors and cancerous growth. BRCA1 mutations are typically microinsertions and point mutations. Two founder mutations in BRCA1 are observed: 185delAG and 5382insC among Ashkenazi women. [1]. BioChain provides primers for detecting 185delAG mutations.

### Applications

- BRCA1 Mutation Analysis
- Genetic Testing
- Risk Assessment for Breast Cancer

### Quality Control

Primer set will generate 170 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

BRCA2 Primer Pairs (Cat# I2210862)

### 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 170 bp PCR products of the 185delAG should be observed. Purify the PCR product and digest it with HinfI, the normal allele gave 150-bp and 20-bp fragments; the mutant allele is not cut by HinfI. In heterozygotes of 185delAG, two bands of 168 bp and 150 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.

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