

BRaCA panel

Hereditary variants profiling in Breast and Ovary Cancer



BRaCA panel

4bases **BRaCA panel** is a **CE-IVD kit** for the identification of mutations in **BRCA1** and **BRCA2** genes (Table 1) through a molecular protocol for Next Generation Sequencing (NGS) technologies on **Nanopore** platforms.

The kit is validated for germline and somatic analysis (SNVs, CNVs) of DNA extracted from blood samples and tissues (fresh, frozen or FFPE).

TECHNOLOGY

BRaCA panel kit contains all reagents needed for the amplification of **BRCA1** and **BRCA2** target genes and library multiplexing for NGS sequencing using **Nanopore** platforms (Table 2).

WORKFLOW

The **BRaCA panel** kit is part of an amplicon-based family solution of 4bases molecular technologies. Its **accuracy and specificity** in detecting genetic variants (i.e. SNVs, CNVs), coupled with its **straightforward protocol** (<3 hours hands-on-time), are the key to its reliability.

Thanks to **4bases proprietary analysis platform, 4eVAR**, the clinical results are easily and efficiently accessible through a validated internal workflow.

SOFTWARE ANALYSIS

4eVAR is the analysis software developed by 4bases. The analysis is designed according to the characteristics and technologies of the kit used, to increase the **accuracy of the results** and to have **complete control over the entire process**.

A **comprehensive report** is provided for each sample including SNV and CNV with ACMG and AMP classification for variant interpretation. Specific links to external databases are also provided for broader and more **complete classification of detected variants**, along with **quality metrics for each sample** in the run.

VALIDATION

The **BRaCA panel** kit has been **validated** both internally and in clinical laboratories, and the whole protocol was tested **on DNA standards and on clinical samples** (Figure 1).

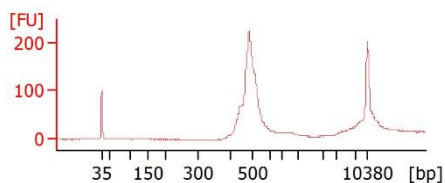


Figure 1. Agilent Bioanalyzer profile of a final **BRaCA panel** library.

Table 1: List of target genes in **BRaCA panel**.

| Genes list |
|--------------|
| BRCA1 |
| BRCA2 |

Table 2: Samples per **BRaCA panel** sequencing run on Nanopore sequencers.

| Flow Cell | Samples per Flow Cell (Coverage 100x) | Nanopore sequencer | Flow Cells per sequencer* |
|--------------------|---------------------------------------|----------------------|---------------------------|
| FLO-FLG114 | 8 | Flongle | 1 |
| FLO-MIN114 | 96 | MinION | 1 |
| | | GridION | Up to 5 |
| FLO-PRO114M | 320 | PromethION 2/P2 Solo | Up to 2 |
| | | PromethION 24 | Up to 24 |
| | | PromethION 48 | Up to 48 |

* Multiple Flow Cells can be used during the same run session, either with different libraries or with the same library to increase sequencing depth.

ORDERING INFORMATION **

| | Product | REF |
|--------------------------------|---------------------------|------------------------------|
| LIBRARY AMPLIFICATION REAGENTS | BRaCA panel | H1070-16 (16 test) |
| | BRaCA panel | H1070-96 (96 test) |
| MULTIPLEXING REAGENTS | BARCODE ONT Set 16 | R8001-16 (16 test) |
| | BARCODE ONT Set 96 | R8002-96 (96 test) |
| NANOPORE ADAPTERS | NANO ADAPTER | M1050-6 (6 sequencing run) |
| | | M1050-24 (24 sequencing run) |

** The reagents required for sequencing on Nanopore platforms have to be purchased separately: contact 4bases for further information.

CONTACT US

For more detailed information regarding validated solutions for automatic library preparation, please contact us at info@4bases.it.

For the target regions of **BRCA1** and **BRCA2** genes (.bed file), please contact us at support@4bases.it.



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