BRaCA panel

Hereditary variants profiling in Breast and Ovary Cancer

4bases

When Precision Matters

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 **Oxford Nanopore Technologies'** 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 **Oxford Nanopore Technologies'** 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.**

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

Genes list
BRCA1
BRCA2

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

Flow Cell	Samples per Flow Cell (Coverage 100x)	Oxford 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 (GridION, PromethION), either with different libraries or with the same library to increase sequencing depth.

PLEASE NOTE: The volumes of the reagents in the kit are calculated to allow the subdivision into multiples of 8 samples per analysis session. Dividing the kit differently will decrease the total number of tests that can be performed. For different settings, please contact us at support@4bases.ch.

PLEASE NOTE: The number of multiplexable samples and coverage depend on starting gDNA degradation, presence of contaminants, external factors, library loading procedure.

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)
OXFORD NANOPORE ADAPTERS	**NANO ADAPTER**	**M1050-6** (6 sequencing runs)
		M1050-24 (24 sequencing runs)

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

PLEASE NOTE: Should you need to run more than/multiple of 96 samples in the same library, please contact us.

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

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