

# BENKit panel



BENKit panel is a kit for the analysis of the KRAS, NRAS, BRAF, EGFR and PIK3CA genes through a molecular protocol based on NGS technologies. The kit is validated for somatic analysis (SNPs, indels) of DNA extracted from cancer tissues (fresh, frozen or FFPE) or other body tissues. BENKit panel kit contains all reagents required for the preparation of a specific bidirectional library of amplicons designed for the NGS analysis using Illumina or Ion Torrent sequencers.

## KEY FEATURES

- REF: R1020-16 (16 test)
- REF: R1020-48 (48 test)
- Genes targeted: KRAS, NRAS, BRAF, EGFR, PIK3CA
- Application: somatic analysis
- Number of pools: 2
- Panel size: 1.5 kb
- Input DNA: 20ng/reaction

## SAMPLES/RUN\*

	Somatic
MiSeq Nano Kit v2 (300-cycles)	11
Nano Kit v2 (500-cycles)	17
Micro Kit v2 (300-cycles)	45
Kit v2 (300-cycles)	>96
Kit v2 (500-cycles)	>96
Kit v3 (600-cycles)	>384
MiniSeq Mid Output Kit (300-cycles)	90
High Output Kit (300-cycles)	>96
iSeq 100 i1 kit (300-cycles)	45
NextSeq 550 Mid-Output Kit	>96
High-Output Kit	>384
Ion 314™ Chip	5
Ion 316™ Chip	23
Ion 318™ Chip/Ion 520™ Chip	46
Ion 530™ Chip	>96
Ion PI™ Chip/Ion 540™ Chip	>384

\*the maximum number of samples per cartridge/chip estimated assuming an average depth of 300x for germline and 5000x for somatic analysis. The optimal number of samples must be empirically determined on local setups.

## INDEXES/ BARCODES

*For Illumina instruments*

Index set A (6x4) REF: R3001  
Index set B (6x4) REF: R3002

*For Ion Torrent instruments*

Barcode 1-16 REF: R6001  
Barcode 17-32 REF: R6002

Target genes	Exons
KRAS	2,3,4
NRAS	2,3,4
BRAF	11,15
EGFR	18,19,20,21
PIK3CA	10,21

For ordering info please contact [info@4bases.ch](mailto:info@4bases.ch)

	Kit ID	Cod	Size (n° test)	CLINICAL APPLICATIONS	TARGETS	SAMPLES TYPE
Profiling of HotSpots somatic mutations (SNPs, indels) in cancer tissues	<b>LUNG panel</b>	<b>R1000-16</b> <b>R1000-48</b>	<b>16</b> <b>48</b>	<b>NSCLC treatment</b>	EGFR (exons 18, 19, 20, 21) KRAS (exons 2, 3, 4)	<b>Tumor DNA tissue (fresh, frozen, FFPE, FNA, etc.)</b> - <b>Somatic analysis (SNPs, indels)</b>
	<b>COLON panel</b>	<b>R1010-16</b> <b>R1010-48</b>	<b>16</b> <b>48</b>	<b>mCRC treatment</b>	KRAS (exons 2, 3, 4) NRAS (exons 2, 3, 4) BRAF (exon 15)	
	<b>BENKit panel</b>	<b>R1020-16</b> <b>R1020-48</b>	<b>16</b> <b>48</b>	<b>MultiCancers treatment</b>	KRAS (exons 2, 3, 4) NRAS (exons 2, 3, 4) BRAF (exon 11, 15) EGFR (exons 18, 19, 20, 21) PIK3CA (exons 10, 21)	
	<b>THYRO-ID panel</b>	<b>R1030-16</b> <b>R1030-48</b>	<b>16</b> <b>48</b>	<b>Mutations profiling of Papillary Thyroid Carcinoma</b>	KRAS (exons 2, 3, 4) NRAS (exons 2, 3, 4) HRAS (exons 2, 3) BRAF (exon 15) TP53 (exons 4, 5, 6, 7, 8, 9) NOTCH1 (exons 26, 27) PTEN (exons 5, 6, 7, 8) CDKN2A (exons 1, 2) EGFR (exons 18, 19, 20, 21) AKT1 (exon 1) CTNNB1 (exon 1) PIK3CA (exons 10, 21) TSHR (exons 6, 8, 9) hTERT (promoter)	
Full-gene sequencing (all CDS + flanking regions) for germline and/or somatic analysis	<b>BRaCA screen</b>	<b>R2000-16</b> <b>R2000-48</b>	<b>16</b> <b>48</b>	<b>Hereditary and Somatic Variants profiling in Breast and Ovary cancer</b>	BRCA1, BRCA2, TP53	<b>Tumor DNA tissue (fresh, frozen, FFPE, FNA, etc.) or other (blood)</b> - <b>Somatic analysis (SNPs, indels)</b> <b>Germline analysis (SNPs, indels, CNVs)</b>
	<b>HECO screen</b>	<b>R2002-16</b> <b>R2002-48</b>	<b>16</b> <b>48</b>	<b>Germline Variants profiling in Hereditary nonpolyposis colorectal cancer (HNPCC)</b>	APC, EPCAM, MLH1, MSH2, MSH6, MUTYH, PMS2, STK11	<b>DNA from body tissues (blood or other)</b> - <b>Somatic analysis* (SNPs, indels)</b> <b>Germline analysis (SNPs, indels, CNVs)</b>
	<b>BRaVO screen</b>	<b>R2001-16</b> <b>R2001-48</b>	<b>16</b> <b>48</b>	<b>Germline Variants profiling in Hereditary Breast and Ovarian Cancer Syndrome (HBOC)</b>	ATM, BRCA1, BRCA2, CDH1, CHEK2, PALB2, PTEN, TP53	
	<b>HEVA screen</b>	<b>R2010-16</b> <b>R2010-48</b>	<b>16</b> <b>48</b>	<b>Hereditary Variants profiling in Breast and Ovary, Lynch Syndrome, and other cancer-related diseases</b>	ATM, APC, BARD1, BRCA1, BRCA2, BRIP1, CDH1, CHEK2, EPCAM, MLH1, MSH2, MSH6, MUTYH, NBN, PALB2, PMS2, PTEN, RAD50, RAD51C, RAD51D, STK11, TP53	
	<b>CFTR screen</b>	<b>R2030-16</b> <b>R2030-48</b>	<b>16</b> <b>48</b>	<b>Cystic fibrosis</b>	CFTR	
	<b>NEPHI screen</b>	<b>R2050-16</b> <b>R2050-48</b>	<b>16</b> <b>48</b>	<b>Neurofibromatosis (type 1, 2*)</b> <b>Noonan syndrome (type 1, 2)*</b> <b>Legius syndrome*</b> <b>Schwannomatosis*</b>	NF1, SPRED1 NF2*, LZTR1*, SMARCB1*	
	<b>IVF screen</b>	<b>R2040-16</b> <b>R2040-48</b>	<b>16</b> <b>48</b>	<b>Hereditary Variants profiling in genetic-related diseases</b>	BDNF, BCHE, ATM, HBB, BLM, ASPA, CHM1, GLA, MEFV, FANCC, G6PC, GALT, GBA, GCDH, GJB2, OTOF, PJKK (DFNB59), HFE2, FPN1, HFE, TFR2, ALDOB, RS1, GALC, GLB1, IDUA, SMPD1, NPC2, NPC1, NBN, FSHR, PAH, PKD2, PKHD1, GAA, M2/ANXA5, ELP1 (IKAP), DHCR7, EPB42, ANK1, HEXA, MPL, MTHFR, F5, F2, ApoE, PAI1, TH, ATP7B, PEX1, AZFa, AZFb, AZFc, MUTYH, BRCA2, BRCA1, APC, SMN2, SMN1, F13A1, CFTR, DMD	
<b>FUSION screen</b>	<b>R2020-16</b> <b>R2020-48</b>	<b>16</b> <b>48</b>	<b>Fusion transcripts and expression imbalances between the 3' and 5' regions of the genes related with Lung cancers</b>	EML4, ALK, ROS1, RET		