

# Next Generation Sequencing (NGS) Solutions



**JANUARY 2026**



# Contents

- ✔ Classic NGS Panel
- ✔ BRCA Pro Panel
- ✔ HRR NGS Panel
- ✔ HRD Complete Panel
- ✔ Essential NGS Panel
- ✔ NGS Comprehensive Panel
- ✔ OncoPro Liquid NGS Panel
- ✔ OncoPro Full NGS Panel



# Advancing Precision Oncology



Genetic cancer testing refers to advanced medical tests used to identify the most effective treatment for each cancer patient. By detecting specific biomarkers, such as genetic mutations, protein expressions, and molecular alterations, these tests reveal how a patient's tumor is likely to respond to particular therapies. This allows clinicians to move beyond trial-and-error and select treatments that are targeted, precise, and more effective.

With companion diagnostics, using Next-Generation Sequencing (NGS) technologies, Biologix Laboratories decodes the molecular drivers of cancer, enabling truly personalized care, and translates complex genomic data into actionable clinical insights that support accurate diagnosis, therapy selection, and disease monitoring. .



# Classic NGS Panel

|                 |                      |   |
|-----------------|----------------------|---|
| <b>FEATURES</b> | Target Regions       | 40 genes and MSI                                  |
|                 | Alterations Detected | SNV, InDel, Fusion, CNA, MSI in solid tumor genes |
|                 | Cancer type          | Colorectal/ Lung/ Bladder/Gastric                 |
|                 | Sample type          | FFPE tissue                                       |
|                 | Sequencing Depth     | Effective Depth $\geq$ 400X                       |

| GENES INCLUDED |       |        |        |
|----------------|-------|--------|--------|
| AKT1           | FGFR1 | MAP2K1 | PDGFRA |
| ALK            | FGFR2 | MET    | PIK3CA |
| BRAF           | FGFR3 | MYC    | POLE   |
| CDK4           | FGFR4 | NFE2L2 | PTEN   |
| CTNNB1         | HRAS  | NKX2-1 | RB1    |
| DDR2           | IDH1  | NRAS   | RET    |
| DPYD           | IDH2  | NRG1   | ROS1   |
| EGFR           | KEAP1 | NTRK1  | STK11  |
| ERBB2          | KIT   | NTRK2  | TP53   |
| ESR1           | KRAS  | NTRK3  | UGT1A1 |

# Benefits of the **Classic** **NGS Panel**



## **Clinical Use**

- Ideal first-line molecular test for solid malignant neoplasms.
- Designed for clinical target therapy
- Used for NTRK-fusion detection

## **Targeted Therapy**

- Identifies mutations like EGFR, BRAF, KRAS, MET, RET, ROS1, PIK3CA → matches patients to approved targeted drugs

## **Immunotherapy**

- Detects MSI → predicts response to immune checkpoint inhibitors

## **Chemotherapy**

- Molecular diagnosis to reduce drug toxicity



**Precision  
starts here!**

# BRCA Pro Panel

Detects BRCA 1&2 variants in peripheral blood-derived DNA or FFPE tumour tissue DNA.

|                             |   |
|-----------------------------|---|
| <b>Target Regions</b>       | All coding regions of BRCA 1&2 genes, exon-intron boundaries, some intron and UTR regions |
| <b>Alterations Detected</b> | SNV & Indel (somatic/germline), LR (germline)   |
| <b>Sequencing Depth</b>     | Blood: >50X<br>FFPE: >400X  |
| <b>Sample type</b>          | DNA from FFPE tissue or whole blood   |
| <b>Cancer type</b>          | Breast/ Ovarian/ Prostate   |



# HRR NGS Panel

|                      |  |
|----------------------|--|
| Target Regions       | Total of 32 genes: 27 HRR genes: All coding regions, exon-intron boundaries and 5 driver genes, with a LOD of 5% VAF, and it's able to detect germline large rearrangement for BRCA 1&2 genes. |
| Alterations Detected | SNV & Indel (somatic/germline), LR (germline for BRCA 1/2)   |
| Sample type          | Fresh-frozen/FFPE tissue, whole blood  |
| Sequencing depth     | Blood: >100X<br>FFPE: >300X  |
| Cancer type          | Breast, Ovarian, and Prostate  |

## GENES INCLUDED

|       |       |        |         |
|-------|-------|--------|---------|
| AR    | CDH1  | HDAC2  | PPP2A2R |
| ATM   | CDK12 | HOXB13 | PTEN    |
| ATR   | CHEK1 | KRAS   | RAD51B  |
| BARD1 | CHEK2 | MRE11  | RAD51C  |
| BRAF  | ERBB2 | NBN    | RAD51D  |
| BRCA1 | ESR1  | NRAS   | RAD54L  |
| BRCA2 | FANCA | PALB2  | STK11   |
| BRIP1 | FANCL | PIK3CA | TP53    |

# HRD Complete Panel

|                             |   |
|-----------------------------|---|
| <b>Target Regions</b>       | Detects mutations in 20 Homologous recombinant repair (HRR) genes and any Homologous recombinant deficiency (HRD) |
| <b>Alterations Detected</b> | 20 HRR genes (SNV/InDel/HD) and Genomic Scar Score (GSS)  |
| <b>Sample type</b>          | FFPE tissue   |
| <b>Cancer type</b>          | Breast, Ovarian, and Prostate   |

| <b>GENES INCLUDED</b> |       |         |        |
|-----------------------|-------|---------|--------|
| ATM                   | CDH1  | FANCL   | RAD51B |
| BARD1                 | CDK12 | HDAC2   | RAD51C |
| BRCA1                 | CHEK1 | PALB2   | RAD51D |
| BRCA2                 | CHEK2 | PPP2A2R | RAD54L |
| BRIP1                 | FANCA | PTEN    | TP53   |

# Essential NGS Panel

|                          |   |
|--------------------------|---|
| Target regions           | Detects mutations in 10 oncogenic drivers.      |
| Alterations Detected     | SNV, Indel, Fusion, CNV                         |
| Sample Type              | FFPE Tissue<br>Cell-free DNA (cfDNA) from blood |
| Average Sequencing depth | $\geq 10,000 \times$                            |
| Cancer type              | Lung, Colorectal                                |

| GENES INCLUDED |      |      |      |        |
|----------------|------|------|------|--------|
| EGFR           | ALK  | ROS1 | KRAS | NRAS   |
| BRAF           | HER2 | MET  | RET  | PIK3CA |

# NGS Comprehensive Panel

(for tissue and liquid biopsy)

| FEATURES             |   |
|----------------------|---|
| Target Regions       | 128 genes and MSI (110 genes + 19 Polymorphisms)  |
| Alterations Detected | SNV, InDel, Fusion, CNV, SNP, MSI<br>CNV and MSI detection are for tissue sample only.        |
| Sample type          | FFPE tumor tissue, liquid biopsy  |
| Cancer type          | Multiple cancer types:<br>Pan-Cancer/Lung/Colorectal<br>/Breast/ Gastric/ Thyroid/ Urothelial |

## DETECTION OF POLYMORPHISMS (19 GENES)

|           |             |             |             |        |            |             |       |       |           |
|-----------|-------------|-------------|-------------|--------|------------|-------------|-------|-------|-----------|
| ABCB<br>1 | C8orf<br>34 | CDA         | CYP19<br>A1 | CYP2D6 | DPYD       | DYNC<br>2H1 | ERCC1 | GSTP1 | MTHF<br>R |
| MTRR      | SEMA<br>3C  | SLC28<br>A3 | SOD2        | TP53   | UGT1<br>A1 | UMPS        | XPC   | XRCC1 |           |

# NGS Comprehensive Panel

(for tissue and liquid biopsy) [cont'd]

## DETECTION OF SNVs, InDels, Fusions, CNVs (110 GENES)

|            |             |            |            |            |            |            |           |           |           |           |
|------------|-------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|
| AKT1       | AKT2        | AKT3       | ALK        | APC        | AR         | ARAF       | ARID1A    | ATM       | ATR       | AURKA     |
| BAP1       | BCL2<br>L11 | BRAF       | BRCA<br>1  | BRCA<br>2  | CCN<br>D1  | CCNE<br>1  | CD27<br>4 | CDK1<br>2 | CDK4      | CDK6      |
| CDK<br>N2A | CDK<br>N2B  | CREB<br>BP | CTN<br>NB1 | DDR2       | EGFR       | EIF1A<br>X | EPAS<br>1 | EPCA<br>M | ERBB<br>2 | ERBB<br>3 |
| ERBB<br>4  | ESR1        | ETS2       | FANCA      | FBX<br>W7  | FGF1<br>9  | FGF3       | FGFR<br>1 | FGFR<br>2 | FGFR<br>3 | FGFR<br>4 |
| FLCN       | FLT3        | GNA<br>S   | HIF1<br>A  | HRAS       | IDH1       | IDH2       | IGF1<br>R | JAK1      | JAK2      | JAK3      |
| KDM<br>5C  | KDR         | KIT        | KRAS       | MAP2<br>K1 | MAP<br>K1  | MET        | MLH1      | MRE1<br>1 | MSH<br>2  | MSH<br>6  |
| MTO<br>R   | MYC         | NF1        | NF2        | NOTC<br>H1 | NRAS       | NRG1       | NTRK<br>1 | NTRK<br>2 | NTRK<br>3 | PALB<br>2 |
| PAX8       | PDC<br>D1   | PDGF<br>RA | PGR        | PIK3<br>CA | PIK3<br>R1 | PMS2       | POLD<br>1 | POLE      | PSM<br>D4 | PTCH<br>1 |
| PTEN       | RAF1        | RASA<br>1  | RASA<br>L1 | RB1        | RET        | RICT<br>OR | RIT1      | ROS1      | RSF1      | SF3B<br>1 |
| SMA<br>D4  | SMA<br>RCA4 | SMO        | STK1<br>1  | TERT       | TOP2<br>A  | TP53       | TSC1      | TSC2      | TSHR      | VHL       |

# Benefits of the NGS Comprehensive Panel



## Genetic Risk Management

- 5 Lynch syndrome related genes (EPCAM, MLH1, MSH2, MSH6, PMS2).
- BRCA 1&2, APC, VHL.

## Targeted Therapy

- Genotyping genes and prognostic related genes
- Drug-related genes for therapy indications

## Immunotherapy

- MSI(> 50 sites)
- Positive genes: POLE, POLD1
- Negative genes: STK11, JAK1/2

## Chemotherapy

- Molecular diagnosis to reduce drug toxicity



**Precision  
starts here!**

# OncoPro Liquid NGS Panel

| FEATURES             |  |
|----------------------|--|
| Target Regions       | 152 genes and MSI  |
| Alterations Detected | SNVs, InDels, fusions, CNVs, SNPs, MSI   |
| Sample type          | Plasma ctDNA   |
| Cancer type          | Unknown cancer origin<br>Lung (NSCLC) / Colorectal / Breast / Ovarian /<br>Prostate / Glioma Thyroid / Pancreatic /<br>Gastric (Stomach) Endometrial (Uterine) /<br>Gastroesophageal/Adenocarcinoma/Melanoma |

## DETECTION OF SNVs, InDels, Fusions, CNAs (152 GENES)

|       |       |             |       |       |              |            |             |       |       |
|-------|-------|-------------|-------|-------|--------------|------------|-------------|-------|-------|
| RIT1  | RNF43 | ROS1        | SETD2 | SF3B1 | SLX4         | SMAD4      | SMAR<br>CA4 | GSTP1 | SMO   |
| STK11 | TERT  | TMPR<br>SS2 | TSC1  | TSC2  | TSTSH<br>RHR | UGT1<br>A1 | VHL         | XRCC1 | XRCC2 |

# OncoPro Liquid NGS Panel [cont'd]

(152 GENES) [CONT'D]

|              |            |            |             |            |            |            |            |            |            |             |
|--------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|-------------|
| ABRA<br>XAS1 | AKT1       | AKT2       | AKT3        | ALK        | APC        | AR         | ARAF       | ARID1A     | ATM        | ATR         |
| AURKA        | B2M        | BAP1       | BCL2<br>L11 | BRAF       | BARD1      | BRCA<br>1  | BRCA<br>2  | BRIP<br>1  | CCN<br>D1  | CCN<br>D2   |
| CCNE<br>1    | CD27<br>4  | CDH1       | CDK1<br>2   | CDK4       | CDK6       | CDK<br>N2A | CDK<br>N2B | CHE<br>K1  | CHEK<br>2  | CTN<br>NB1  |
| CYP2<br>D6   | DDR2       | DPY<br>D   | EGFR        | EPCA<br>M  | ERBB<br>2  | ERB<br>B3  | ERB<br>B4  | ERCC<br>1  | ERCC<br>2  | ERCC<br>3   |
| ERCC<br>4    | ESR1       | ETS2       | FANC<br>A   | FANC<br>D2 | FANCL      | FANC<br>M  | FBXW<br>7  | FGF1<br>9  | FGFR<br>3  | FGFR<br>1   |
| FGFR<br>2    | FGFR<br>3  | FGFR<br>4  | FH          | GATA<br>3  | GEN1       | GNA<br>11  | GNA<br>Q   | GNA<br>S   | HDA<br>C2  | HNN<br>NF1A |
| HRAS         | IDH1       | IDH2       | JAK1        | JAK2       | JAK3       | KDR        | KEAP<br>1  | KIT        | KRAS       | MAP<br>2K1  |
| MAP2<br>K2   | MAP2<br>K4 | MAP<br>K1  | MAPK<br>3   | MDM<br>2   | MDM<br>3   | MET        | MLH<br>1   | MPL        | MRE<br>11  | MSH<br>2    |
| MTO<br>R     | MYC        | NF1        | NF2         | NOTC<br>H1 | NRAS       | NRG<br>1   | NTR<br>K1  | NTR<br>K2  | NTR<br>K3  | PALB<br>2   |
| PAX8         | PDC<br>D1  | PDGF<br>RA | PGR         | PIK3C<br>A | PIK3R<br>1 | PMS<br>2   | POL<br>D1  | POLE       | PSM<br>D4  | PTC<br>H1   |
| PDGF<br>RA   | PIK3<br>CA | PIK3<br>RI | PMS2        | PODL       | RAD5<br>0  | RAD<br>51  | RAD<br>51B | RAD<br>51C | RAD<br>51D | RAD<br>52   |
| RAD5<br>4L   | RAF1       | RASA<br>1  | RB1         | RET        | RHEB       | RHO<br>A   | RTI1       | RNF4<br>3  | RO1        | RICT<br>OR  |

# OncoPro NGS Panel Full

| FEATURES             |   |
|----------------------|---|
| Target Regions       | 195 pan-solid-tumor genes   |
| Alterations Detected | SNV, InDel, CNV, HD, MSI (DNA level) and Fusions, MET exon 14 skipping (RNA level)  |
| Sample type          | FFPE) tumor tissue specimens  |
| Cancer type          | Unknown cancer origin<br>Lung (NSCLC) / Colorectal / Breast / Ovarian / Prostate / Glioma Thyroid / Pancreatic / Gastric (Stomach) Endometrial (Uterine) / Gastroesophageal/Adenocarcinoma/Melanoma |

## DETECTION OF SNVs, InDels, Fusions, CNAs (195 GENES)

|          |        |        |        |        |        |        |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| NKX2-1   | NRAS   | NRG1   | NSD3   | NTRK1  | NTRK2  | NTRK3  | NUTM1   | PALB2   | PAX8    | PBRM1   |
| PDCD1LG2 | PDGFRA | PIK3CA | PIK3R1 | PMS2   | POLD1  | POLE   | PPP2R1A | PRKACA  | PTCH1   | PTCH2   |
| PTEN     | QKI    | RAD50  | RAD51B | RAD51C | RAD51D | RAD54L | RAF1    | RASA1   | RASGRF1 | RB1     |
| RBM10    | RET    | RICTOR | RIT1   | RNF43  | ROS1   | SETD2  | SF3B1   | SMAD4   | SMARCA2 | SMARCA4 |
| SMARCB1  | SMO    | SPOP   | STAT3  | STK11  | SUFU   | TERT   | TET2    | TGFB R2 | TP53    | TSC1    |
| TSC2     | UGT1A1 | VEGFA  | VHL    | YAP1   | ZFTA   | ZNF532 | ZNF592  |         |         |         |

# OncoPro NGS Panel Full [cont'd]

(195 GENES) [CONT'D]

|                |            |            |            |            |           |            |            |            |             |            |
|----------------|------------|------------|------------|------------|-----------|------------|------------|------------|-------------|------------|
| ABRS1<br>AXAS1 | ABTB<br>2  | AKT1       | AKT2       | AKT3       | ALK       | APC        | AR         | ARAF       | ARID<br>1A  | ARID<br>1B |
| ARID2          | ATM        | ATR        | ATRX       | AURK<br>A  | AXIN1     | B2M        | BAP1       | BAR<br>D1  | BMP<br>R1A  | BRAF       |
| BRCA<br>1      | BRCA<br>2  | BRD3       | BRD4       | BRIP1      | CCND<br>1 | CCN<br>E1  | CD27<br>4  | CDH<br>1   | CDK1<br>2   | CDK<br>4   |
| CDK6           | CDK<br>N1B | CDK<br>N2A | CDK<br>N2B | CHD1       | CHEK<br>1 | CHE<br>K2  | CLD<br>N18 | CTNN<br>B1 | CYP17<br>A1 | CYP2<br>D6 |
| DDR2           | DICE<br>R1 | DNAJ<br>B1 | DNM<br>T3A | DPYD       | EGFR      | EIF1A<br>X | ELK4       | EPC<br>AM  | ERB<br>B2   | ERB<br>B3  |
| ERCC<br>1      | ERCC<br>2  | ERG        | ESR1       | ETV1       | ETV4      | ETV5       | EZH2       | FAN<br>CA  | FAN<br>CC   | FAN<br>CD2 |
| FANCL          | FAT1       | FBXW<br>7  | FGF1<br>9  | FGFR<br>1  | FGFR2     | FGFR<br>3  | FGFR<br>4  | FH         | FLT3        | FOX<br>A1  |
| GATA<br>3      | GATA<br>6  | GEN1       | GLI1       | GLI2       | GNA1<br>1 | GNA<br>14  | GNA<br>Q   | GNA<br>S   | GSTP<br>1   | GTF2<br>I  |
| H3-<br>3A      | H3C2       | H3C3       | HDA<br>C2  | HOXB<br>13 | HRAS      | HSD<br>3B1 | IDH1       | IDH2       | IFNG<br>R1  | IFNG<br>R2 |
| JAK1           | JAK2       | KDM<br>5C  | KDM<br>6A  | KEAP<br>1  | KIT       | KMT<br>2B  | KMT<br>2C  | KMT<br>2D  | KRAS        | LTK        |
| MAP2<br>K1     | MAP2<br>K4 | MDM<br>2   | MDM<br>4   | MET        | MLH1      | MLH<br>3   | MMS<br>22L | MRE<br>11  | MSH<br>2    | MSH<br>3   |
| MSH<br>6       | MTAP       | MTO<br>R   | MUT<br>YH  | MYB        | MYC       | MYC<br>N   | NBN        | NF1        | NF2         | NFE2<br>L2 |



# Precision starts here.



52/56c Olorunlogbon  
Street, Anthony Village,  
Maryland, Lagos.



+2348084846534,  
+2349138332853,  
+2349040267855



[lab.biologix.com.ng](http://lab.biologix.com.ng)

biologi 

LABORATORIES