Features

Hybridisation-based enrichment delivering unparalleled coverage uniformity
- Detect low frequency prostate cancer variants consistently with confidence

Panel content designed with experts and from current literature to target all relevant regions
- Get the most comprehensive insight into disease-driving mutations

Complimentary Interpret NGS data analysis software
- Easy-to-use analysis solution for accurate detection of all variants

NGS Custom Prostate Cancer panel
**Introduction**

Prostate cancer is now the second leading cause of cancer in men, with recent genome-wide studies helping to clarify the genetic basis of this common but complex disease. Many of these studies have reinforced the importance of homologous end repair genes including: *ATM, BRCA1, BRCA2* and *PALB2*, in the mechanism of prostate cancer development. Mutations in these genes result in cells having to repair lesions through other non-conservative mutagenic mechanisms.

Choose your ideal prostate cancer NGS panel from our range of fully optimised NGS panel content. Simply mix and match the genes or individual exons you require and get the most out of your sequencing runs. Use in conjunction with the SureSeq™ FFPE DNA Repair Mix® for improved NGS library yields, %OTR (on target rate) and mean target coverage from challenging FFPE derived samples.

**Superior Coverage Uniformity**

A number of genetic factors have been found that increase prostate cancer risk, including heritable mutations in the genes *BRCA1 and BRCA2*. *BRCA1* is a key player in cellular control systems, having been linked to DNA damage response and repair, transcriptional regulation and chromatin modelling, while *BRCA2* function is linked to DNA recombination and repair processes, being of particular importance in the regulation of *RAD51* activity. Figure 1 illustrates the superior uniformity of coverage of key exons of *BRCA1 and BRCA2* from an FFPE sample.

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**Figure 1:**

A. *BRCA1* exon 9 and 10 coverage. B. *BRCA2* exon 11 coverage. Depth of coverage per base (grey). Targeted region (green). Gene coding region as defined by RefSeq (blue). GC percentage (red).

*PALB2* is a *BRCA2* binding protein and the *BRCA2–PALB2* interaction is essential for *BRCA2*-mediated DNA repair. Recently it has been shown that correct *PALB2* function is necessary for the homologous recombination repair via interaction with *BRCA1*, revealing that *PALB2* is actually a linker between *BRCA1* and *BRCA2*. The *ATM* gene, located on chromosome 11q 22–23, includes 66 exons with a 9168 base
pair coding sequence, and encodes a PI3K–related protein kinase (PIKK) that helps maintain genomic integrity. The PI3K–AKT–mTOR oncogenic pathway is frequently enhanced in prostate cancer playing a vital role in development and maintenance. Figures 2 and 3 illustrate the excellent uniformity of coverage of key exons of PALB2 and ATM, respectively.

Figure 2: Illustration of the excellent uniformity of coverage of PALB2 A exon 5 and B exon 13. Depth of coverage per base (grey). Targeted region (green). Gene coding region as defined by RefSeq (blue). GC percentage (red).

Figure 3: Illustration of the excellent uniformity of coverage of ATM A exon 45 and B exon 62. Depth of coverage per base (grey). Targeted region (green). Gene coding region as defined by RefSeq (blue). GC percentage (red).
Select from any of the following myPanel Prostate Cancer whole gene or exonic content below.

- ATM
- BRCA1
- BRCA2
- PALB2

Getting started with your next SureSeq myPanel NGS Custom Cancer panel could not be simpler.

**SELECT**
Select the gene/exon/intron content you need from OGT's regularly updated, expert curated content library.

**CHANGE**
New discoveries in cancer biology drive a change in your cancer workflow.

**PREPARE**
OGT prepares a fully pre-optimised cancer panel to your specification.

**EXPERIENCE**
You experience the superior performance of a SureSeq NGS Custom Cancer Panel.

**VALIDATE**
You validate the performance of the panel in your laboratory workflow.

**APPROVE**
Following approval, OGT ships the final panel to you.

It really is this quick and easy...
Ordering information
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US +1 914 467 5285
contact@ogt.com
ogt.com

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<th>Product</th>
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<td>SureSeq myPanel NGS Custom Prostate Cancer Panels</td>
<td>Enrichment baits; Interpret Software</td>
<td>Various</td>
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<tr>
<td>SureSeq FFPE DNA Repair Mix*</td>
<td>Enzyme, mix and buffers sufficient for 16 FFPE DNA samples</td>
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<td>SureSeq NGS Library Preparation Complete Solution (16)</td>
<td>Bundle of 1x SureSeq NGS Library Preparation Kit (16), containing adaptors, PCR primers and enzymes, 1x SureSeq NGS Index Kit – Collection A, 1x SureSeq NGS Hyb &amp; Wash Kit (16), 1x Dynabeads M270 Streptavidin (2ml) and 1x AMPure XP beads (10ml). Sufficient for 16 samples</td>
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<td>SureSeq NGS Library Preparation Complete Solution (48)</td>
<td>Bundle of 1x SureSeq NGS Library Preparation Kit (48), containing adaptors, PCR primers and enzymes, 1x SureSeq NGS Index Kit – Collection B, 3x SureSeq NGS Hyb &amp; Wash Kit (16), 3x Dynabeads M270 Streptavidin (2ml) and 3x AMPure XP beads (10ml). Sufficient for 48 samples</td>
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*The SureSeq FFPE DNA Repair Mix can only be purchased in conjunction with SureSeq NGS panels, not as a standalone product.

References

A Sysmex Group Company

What binds us, makes us.

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