# VariantPlex® {{ panel\_name }}

## Description

The VariantPlex {{ panel\_name }} panel is an optimized, balanced pool of gene-specific primer (GSP) oligonucleotides that is used in conjunction with VariantPlex HGC 2.0 reagents and molecular barcode (MBC) adapters to produce targeted NGS libraries. This product insert should be used in conjunction with VariantPlex HGC 2.0 protocol for Illumina® (PRO035).

## Contents

|  |  |  |
| --- | --- | --- |
| Description | Part number | Storage conditions |
| VariantPlex® {{ panel\_name }} GSP1 - {{ num\_reactions }} reactions | {{ prefix }}{{ design\_id }}{{ ‘%02d’ % num\_reactions }}1 | -20°C ± 10°C |
| VariantPlex® {{ panel\_name }} GSP2 - {{ num\_reactions }} reactions | {{ prefix }}{{ design\_id }}{{ ‘%02d’ % num\_reactions }}2 |
| PreSeq® DNA QC Assay Standard - 32 μL | SA0597 |
| PreSeq® DNA QC Assay 10X Primer Mix - 120 μL | SA0598 |

## Required reagent volumes

|  |  |  |  |
| --- | --- | --- | --- |
| Protocol reference | Protocol step | Reagent | Required volume per reaction |
| A | Ligation Step 2 Elution | 5mM NaOH | {{ reagent\_volumes[0] }} μL |
| B | First PCR | VariantPlex{{ panel\_name }}  GSP1 | {{ reagent\_volumes[1] }}μL |
| C | First PCR | 10mM Tris-HCl pH 8.0 | {{ reagent\_volumes[2] }} μL |
| D | First PCR | Purified PCR1 eluate | {{ reagent\_volumes[3] }} μL |
| E | Second PCR | VariantPlex {{ panel\_name }}  GSP2 | {{ reagent\_volumes[4] }} μL |

## Recommended PCR cycling

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Step | Temperature (°C) | Time | Cycles |
| First PCR reaction | **1** | 95 | 3 min | 1 |
| **2** | 95 | 30 sec | {{ pcr\_info.pcr\_1\_cycles }} |
| **3** | {{ pcr\_info.pcr\_1\_temp }} | {{ pcr\_info.pcr\_1\_anneal\_time }} min (100% ramp rate) |
| **4** | 72 | 3 min | 1 |
| **5** | 4 | Hold | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Second PCR reaction | **1** | 95 | 3 min | 1 |
| **2** | 95 | 30 sec | {{ pcr\_info.pcr\_2\_cycles }}† |
| **3** | 65 | {{ pcr\_info.pcr\_2\_anneal\_time }} min (100% ramp rate) |
| **4** | 72 | 3 min | 1 |
| **5** | 4 | Hold | 1 |

†The number of PCR2 cycles may be decreased if you regularly experience library yields greater than 200nM.

## Recommended reads and multiplexing

VariantPlex {{ panel\_name }} libraries should be sequenced to a minimum of **{{ recommended\_reads }} reads**. Starting reads depth recommendations for standard profiling may be adjusted to increase panel sensitivity.

## Archer® Analysis settings

Sequencing data should be processed using Archer Analysis (v{{ analysis\_version }} or greater). The VariantPlex {{ panel\_name }} panel requires selection of the {% if pipelines|length==1 %}***{{ pipelines[0] }}*** pipeline{% elif pipelines|length==2 %}***{{ pipelines[0] }}*** and ***{{ pipelines[1] }}*** pipelines{% else %}{% for pipeline in pipelines %}{% if not loop.last %}***{{ pipeline }}***, {% else %}and ***{{ pipeline }}*** pipelines{% endif %}{% endfor %}{% endif %}, found under the ***DNA*** Input Type (see the software user manual for further details on setting up analyses).

Processing of VariantPlex {{ panel\_name }} libraries requires a one-time upload of the Custom Panel GTF. When performing DNA Target Coverage analysis, users must also select a Region of Interest BED file. Both files can be obtained by contacting adx-tech-support@invitae.com. Users may optionally add a Targeted Mutations VCF file for targeted SNP/indel detection.

## 

## Limitations of use

**For research use only.** Not for use in diagnostic procedures. Not intended to be used in treatment of animal or human diseases.

Safety data sheets pertaining to this product are available upon request.

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