

LIQUIDPlex Universal Solid Tumor

Description

The LIQUIDPlex Universal Solid Tumor panel is a balanced pool of gene-specific primer (GSP) oligonucleotides that is optimized for use with LIQUIDPlex reagents and molecular barcode (MBC) adapters to produce targeted NGS libraries. This product insert should be used in conjunction with LIQUIDPlex protocol for Illumina® (RA-DOC-052) or LIQUIDPlex-LAC protocol for Illumina® (RA-DOC-472).

Description	Part number	Storage
LIQUIDPlex Universal Solid Tumor GSP1, 8 reactions	cSA5061081	-20°C ± 10°C
LIQUIDPlex Universal Solid Tumor GSP2, 8 reactions	cSA5061082	

Required reagent volumes

Protocol reference	Protocol step	Reagent	Protocol RA-DOC-052 Volume per reaction (µL)	LAC Protocol RA-DOC-472 Volume per reaction (µL)
A	Ligation Step 2 Elution	5mM NaOH	36	36
B	First PCR	LIQUIDPlex Universal Solid Tumor GSP1	4	4
C	First PCR	10mM Tris-HCl pH 8.0	38	34
D	First PCR	Purified PCR1 eluate	36	32
E	Second PCR	LIQUIDPlex Universal Solid Tumor GSP2	4	4

Recommended PCR cycling

	Step	Temperature (°C)	Time	Cycles
First PCR reaction	1	95	3 min	1
	2	95	30 sec	10
	3	65	10 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	15†
	3	65	10 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 200 nM.

Recommended reads and multiplexing

LIQUIDPlex Universal Solid Tumor libraries should be sequenced to a minimum of **5M reads**. Starting read depth recommendations for standard profiling may be adjusted based on user needs.

Archer™ Analysis settings

Sequencing data should be processed using Archer Analysis (v7.0, or greater). The LIQUIDPlex Universal Solid Tumor panel requires selection of the **SNV/Indel, Structural Variation, and Copy Number Variation** pipelines, found under the **cfDNA** Input Type (see the Archer Analysis User Guide for more details on setting up your analysis).

Processing of LIQUIDPlex Universal Solid Tumor libraries requires a one-time upload of the Panel GTF. Users may optionally add a Targeted Mutations VCF file for targeted SNV/Indel detection. Files can be obtained by contacting archer-tech@idtdna.com

Assay targets

Gene	Accession	Exon*
<i>AKT1</i>	NM_005163	Select hotspots
<i>ALK</i>	NM_004304	Select hotspots
<i>AR</i>	NM_000044	Select hotspots
<i>BRAF</i>	NM_004333	Select hotspots
<i>CTNNB1</i>	NM_001904	Select hotspots
<i>EGFR</i>	NM_005228	Select hotspots
<i>ERBB2</i>	NM_004448	Select hotspots
<i>ERBB3</i>	NM_001982	Select hotspots
<i>ESR1</i>	NM_000125	Select hotspots
<i>FGFR1</i>	NM_015850	Select hotspots
<i>FGFR2</i>	NM_000141	Select hotspots
<i>FGFR3</i>	NM_000142	Select hotspots
<i>HRAS</i>	NM_005343	Select hotspots
<i>IDH1</i>	NM_005896	Select hotspots
<i>IDH2</i>	NM_002168	Select hotspots
<i>KIT</i>	NM_000222	11

Gene	Accession	Exon*
<i>KRAS</i>	NM_004985	Select hotspots
<i>MAP2K1</i>	NM_002755	Select hotspots
<i>MET</i>	NM_000245	Select hotspots
<i>NRAS</i>	NM_002524	Select hotspots
<i>NTRK1</i>	NM_002529	Select hotspots
<i>NTRK2</i>	NM_006180	Select hotspots
<i>NTRK3</i>	NM_002530	Select hotspots
<i>PDGFRA</i>	NM_006206	Select hotspots
<i>PIK3CA</i>	NM_006218	Select hotspots
<i>RET</i>	NM_020630	Select hotspots
<i>ROS1</i>	NM_002944	Select hotspots
<i>TP53</i>	NM_001276698	6
<i>TP53</i>	NM_000546	1,2,3,4,5,6,7,8,9,10,11

*Contact archer-tech@idtdna.com for a target BED file of the targeted genomic regions

Genes targeted for CNV

AR	CDK6	ERBB2	FGFR1	FGFR3
BRAF	EGFR	ERBB3	FGFR2	MET

Limitations of use

For research use only. Not for use in diagnostic procedures. Unless otherwise agreed to in writing, IDT does not intend these products to be used in clinical applications and does not warrant their fitness or suitability for any clinical diagnostic use. Purchaser is solely responsible for all decisions regarding the use of these products and any associated regulatory or legal obligations.

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

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Revision History

Document Number	Date	Description of change
RA-DOC-039/REV01	June 2023	Initial release.
RA-DOC-039/REV02	November 2023	Updated branding.
RA-DOC-039/REV03	October 2024	Added LIQUIDPlex-LAC protocol for Illumina® (RA-DOC-472) to the Description section and LAC chemistry compatible reagent volumes.