FusionPlex® CTL

Part # SK0084

Description

The FusionPlex® CTL panel is an optimized, balanced pool of gene-specific primers (GSP) that is used in conjunction with FusionPlex® Reagents and Molecular Barcode (MBC) Adapters to produce targeted NGS libraries.

FusionPlex® CTL contains **203** GSPs targeting **36** genes commonly mutated in solid tumor type cancers.

Contents

Description	Part Number	Storage Conditions
Archer® FusionPlex® CTL Panel GSP1 - 8 reactions	SA0070-8-1	-20°C ± 10°C
Archer® FusionPlex® CTL Panel GSP2 - 8 reactions	SA0070-8-2	
10X VCP Primer Mix	SA0126	

Recommended Reads and Multiplexing

The recommended sequencing depth for FusionPlex® CTL libraries is **1,500,000** reads per sample.

Assay Targets

Gene	Accession	Exon	Assay Type	Description
AKT1	NM_005163	3	Mutation	E17K
ALK	NM_004304	2, 4, 6, 10, 16, 17, 18, 19, (intron19) 20, 21, 22, 23	Fusion/Expression Imbalance	5’
ALK	NM_004304	N/A	Expression	N/A
ALK	NM_004304	21, 22, 23, 25	Mutation	T1151ins, L1152R, C1156Y, F1174L, L1196M, G1202R, S1206Y, G1269A
AXL	NM_001699	18, 19, 20	Fusion	3’
AXL	NM_001699	N/A	Expression	N/A
BRAF	NM_004333	11, 15	Mutation	G466V, G469, Y472, L597V, V600, D594G
BRAF	NM_004333	7, 8, 9, 10, 11	Fusion	5’
BRAF	NM_004333	7, 8, 10	Fusion	3’
BRAF	NM_004333	N/A	Expression	N/A
CALCA	NM_001741	N/A	Expression	N/A

CCND1	NM_053056	1, 2, 3, 4	Fusion	5’
CCND1	NM_053056	1, 2, 4	Fusion	3’
CCND1	NM_053056	N/A	Expression	N/A
CTNNB1	NM_001904	3	Mutation	D32G, S37, G34
DDR2	NM_006182	17	Mutation	S768R, T765P, G774
EGFR	NM_005228	8	Fusion	5’ (2-7 exon skipping event)
EGFR	NM_005228	18, 19, 20, 21	Mutation	G719, A763insFQEA, T790M, L858R, L861Q, Y764, V774, L777, L768, P753, L760, E709A, L747, various deletions in exon 19
EGFR	NM_005228	N/A	Expression	N/A
ERBB2	NM_004448	20	Mutation	C775ins
FGFR1	NM_015850	13	Mutation	V561M
FGFR1	NM_015850	2, 8, 9, 10, 17	Fusion	5’
FGFR1	NM_015850	17	Fusion	3’
FGFR1	NM_015850	N/A	Expression	N/A
FGFR2	NM_000141	2, 5, 7, 8, 9, 10	Fusion	5’
FGFR2	NM_000141	17	Fusion	3’
FGFR2	NM_000141	N/A	Expression	N/A
FGFR3	NM_000142	17, (intron 17)	Fusion	3’
FGFR3	NM_000142	3, 5, 8, 9, 10	Fusion	5’
FGFR3	NM_000142	N/A	Expression	N/A
GNAS	NM_000516	8, 9	Mutation	various exon 8 and 9 mutations
GNAS	NM_000516	8, 9	Mutation	N/A
HRAS	NM_005343	2, 3	Mutation	G12, G13, Q61
IDH1	NM_005896	4	Mutation	R132
IDH2	NM_002168	4	Mutation	R172, R140
KRAS	NM_004985	2, 3, 4	Mutation	G12, G13, Q61, A146
KRT20	NM_019010	N/A	Expression	N/A
KRT7	NM_005556	N/A	Expression	N/A
MAP2K1	NM_002755	2, 3	Mutation	Q56P, K57N, D67N
MET	NM_000245	2	Fusion	3’
MET	NM_000245	2, 4, 5, 6, 13, 14, 16, 17, 21	Fusion	5’
MET	NM_000245	15	Fusion	5’ (Exon 14 skipping event)
MET	NM_000245	N/A	Expression	N/A
NRAS	NM_002524	2, 3	Mutation	G12, G13, Q61
NRG1	NM_004495	1, 2, 3, 6	Fusion	5’
NTRK1	NM_002529	2, 4, 6, 8, 10, 11, 12, 13	Fusion/Expression Imbalance	5’
NTRK1	NM_002529	N/A	Expression	N/A
NTRK2	NM_006180	5, 7, 9, 11, 12, 13, 14, 15, 16, 17	Fusion/Expression Imbalance	5’
NTRK2	NM_006180	N/A	Expression	N/A
NTRK3	NM_002530	4, 7, 10, 13,	Fusion/Expression	5’

		14, 15, 16	Imbalance	
NTRK3	NM_001007156	15	Fusion	5’
NTRK3	NM_002530	N/A	Expression	N/A
PIK3CA	NM_006218	10, 21	Mutation	E542K, E545, H1047
PPARG	NM_015869	1, 2, 3, 5	Fusion	5’
PTH	NM_000315	N/A	Expression	N/A
RAF1	NM_002880	4, 5, 6, 7, 9, 10, 11, 12	Fusion	5’
RET	NM_020630	11, 13, 14, 15, 16	Mutation	C634, M918T, V804, Y806D, E768D, A883F
RET	NM_020630	2, 4, 6, 8, 9, 10, 11, 12, 13, 14	Fusion/Expression Imbalance	5’
RET	NM_020630	N/A	Expression	N/A
ROS1	NM_002944	2, 4, 7, 31, 32, 33, 34, 35, 36, 37	Fusion/Expression Imbalance	5’
ROS1	NM_002944	38	Mutation	G2032R
ROS1	NM_002944	N/A	Expression	N/A
SLC5A5	NM_000453	N/A	Expression	N/A
THADA	NM_022065	24, 25, 26, 27, 28, 29, 30, 36, 37	Fusion	3’
THADA	NM_022065	N/A	Expression	N/A
TTF1	NM_007344	N/A	Expression	N/A

*Not all accession numbers covered are shown in table

Archer Analysis Settings

Sequencing data should be processed using **Archer Analysis** (v5.0 or greater). The FusionPlex® CTL panel requires selection of the ***RNA Fusion*** pipeline, found under the RNA Analysis Type in Archer Analysis. The ***RNA SNP/InDel*** pipeline may optionally be chosen as well (see the software user manual for further details on setting up analyses).

Limitations of Use

For Research Use Only. Not for use in diagnostic procedures. Not intended to be used for treatment of human or animal disease.

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

ArcherDX, Inc.
2477 55th Street, Suite 202
Boulder, CO 80301
303-357-9001
http://www.archerdx.com