

FUSIONPlex™ Pan Solid Tumor v2

Gene	Accession	Exon	Variant Type	Description**
<i>ACVR2A</i>	NM_001616	1, 2, 3	Fusion	5'
<i>AKT1</i>	NM_005163	2, 3, 4, 5, mid-exon5	Fusion	5'
<i>AKT2</i>	NM_001626	2*, 5	Fusion	5'
<i>AKT2</i>	NM_001626	11	Fusion	3'
<i>AKT3</i>	NM_005465	2, 3, 4, 9	Fusion	5'
<i>AKT3</i>	NM_005465	6, 7, 8	Fusion	3'
<i>ALK</i>	NM_004304	2, 4, 6, 8, 10, 12, 14, 16, 17, 18, 19, intron19, 20, mid-exon20, 21, 22, 23, 26	Fusion, ALK ATIV, Internal deletion (ALKΔ2-17, ALKΔ2-3)	5'
<i>ALK</i>	NM_004304	1, 2	Internal deletion (ALKΔ2-17, ALKΔ2-3)	3'
<i>ALK</i>	NM_004304	22, 23, 25	Mutation	p.P1153-p.C1156,p.F1174,p.L1196-p.S1206,p.G1269
<i>AR</i>	NM_001011645	1	Fusion	3'
<i>AR</i>	NM_000044	1, 2, 3, 4, 5, 6, 7, 8*	Fusion, ARv7	3'
<i>ARHGAP26</i>	NM_015071	2, 10, 11, 12	Fusion	5'
<i>ARHGAP6</i>	NM_006125	2	Fusion	5'
<i>AXL</i>	NM_021913	11	Fusion	5'
<i>AXL</i>	NM_021913	18, 19, mid-exon20, 20	Fusion	3'
<i>BCOR</i>	NM_017745	8	Fusion	5'
<i>BCOR</i>	NM_001123385	mid-exon2, 3, 4, mid-exon4, 5, 6, 7, 8, 9, 11, 15	Fusion, Internal Tandem Duplication	5'
<i>BCOR</i>	NM_001123385	2, 4, mid-exon4, 6, 7, mid-exon7, 10, 12, 14, 15	Fusion, Internal Tandem Duplication	3'
<i>BRAF</i>	NM_004333	2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 15, 16	Fusion, Kinase Domain Duplication, BRAFΔ2-10, BRAFΔ4-10, BRAFΔ2-8, BRAFΔ3-8, BRAFΔ4-8	5'

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<i>BRAF</i>	NM_004333	1, 2, 3, 7, 8, 10, 13, 14, 18	Fusion, Kinase Domain Duplication, BRAFΔ2-10, BRAFΔ4-10, BRAFΔ2-8, BRAFΔ3-8, BRAFΔ4-8	3'
<i>BRAF</i>	NM_004333	15	Mutation	p.V600
<i>BRD3</i>	NM_007371	9, 10, 11, 12	Fusion	3'
<i>BRD4</i>	NM_058243	2*	Fusion	5'
<i>BRD4</i>	NM_058243	10, 11, 12, 13, 14	Fusion	3'
<i>CAMTA1</i>	NM_015215	8, 9, mid-exon9, 10	Fusion	5'
<i>CAMTA1</i>	NM_015215	3	Fusion	3'
<i>CCNB3</i>	NM_033031	2*, 3, 4, 5, 6, mid-exon 6, 7	Fusion	5'
<i>CCND1</i>	NM_053056	1*, 2, 3, 4, 5	Fusion	5'
<i>CCND1</i>	NM_053056	1, 2, 3, 4, mid-exon5*	Fusion	3'
<i>CCND1</i>	NM_053056	5*	Fusion	3'
<i>CCND1</i>	NM_053056	1	Mutation	p.E36-p.C47
<i>CD274</i>	NM_014143	7	Expression	5'
<i>CD274</i>	NM_014143	2, 3, 4, 5	Expression	3'
<i>CIC</i>	NM_015125	12	Fusion	5'
<i>CIC</i>	NM_015125	14, 15, 16, 17, 18, mid-exon19, 19, mid-exon20, 20*	Fusion	3'
<i>CRTC1</i>	NM_015321	1, 2, 3, 4	Fusion	3'
<i>CSF1</i>	NM_000757	2, 3, 4, 5, 6	Fusion	5'

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<i>CSF1</i>	NM_000757	5, 6, 7, 8*, mid-exon9*	Fusion	3'
<i>CSF1</i>	NM_172212	9*	Fusion	3'
<i>CSF1R</i>	NM_005211	11, 12, 13	Fusion	5'
<i>CTNNB1</i>	NM_001904	3	Mutation	p.D32-p.S37
<i>DNAJB1</i>	NM_006145	1, 2	Fusion	3'
<i>EGF</i>	NM_001963	16, 17, 18, 19	Fusion	5'
<i>EGFR</i>	NM_005228	7, 8, 9, 14, 15, 16, 17, 18, 19, 20	Fusion, Exon 2-7 Skipping (EGFRvIII), Kinase Domain Duplication	5'
<i>EGFR</i>	NM_005228	1, 24, 25, mid-exon25, 26	Fusion, Exon 2-7 Skipping (EGFRvIII), Kinase Domain Duplication	3'
<i>EGFR</i>	NM_005228	18, 19, 20, 21	Mutation	p.E709-p.G719,p.E746-p.L760,p.V774-p.G796,p.L858-p.L861
<i>EPC1</i>	NM_025209	9, 10, 11	Fusion	3'
<i>ERBB2</i>	NM_004448	4, 5, 13, 15, 17	Fusion, Exon 16 skipping (Δ 16HER)	5'
<i>ERBB2</i>	NM_004448	15, 23, 24, 25, mid-exon26, 26	Fusion, Exon 16 skipping (Δ 16HER)	3'
<i>ERBB2</i>	NM_004448	8, 20	Mutation	p.G309-p.S310,p.Y772-p.P780, p.C805
<i>ERBB4</i>	NM_005235	2, 3, 4, 14, 15, 16, 17, 18, 23	Fusion	5'
<i>ERG</i>	NM_004449	2*, 3*, 4, 5, 6, 7, 8, 9, 10, 11	Fusion	5'
<i>ESR1</i>	NM_000125	5, 6, 7, 8	Fusion	5'
<i>ESR1</i>	NM_000125	1, 2, 3, 4, 5, 6, 7	Fusion	3'
<i>ESRRA</i>	NM_004451	2, 3	Fusion	3'

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<i>ETV1</i>	NM_004956	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	Fusion	5'
<i>ETV4</i>	NM_001986	2, 3, 4, 5, 6, 7, 8, 9, 10	Fusion	5'
<i>ETV5</i>	NM_004454	2*, 3, 7, 8, 9	Fusion	5'
<i>ETV6</i>	NM_001987	2, 3, 4, 5, 6, 7	Fusion	5'
<i>ETV6</i>	NM_001987	1, 2, 3, 4, 5, 6	Fusion	3'
<i>ETV6</i>	NM_001987	3	Mutation	p.Y104-p.R105
<i>EWSR1</i>	NM_005243	8	Fusion	5'
<i>EWSR1</i>	NM_005243	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Fusion	3'
<i>FGF1</i>	NM_00800	mid-exon 2, 2	Fusion	5'
<i>FGFR1</i>	NM_015850	2*, 3, 4, 5, 6, 7, 8, 9, 10, 11, 17	Fusion, Kinase Domain Duplication	5'
<i>FGFR1</i>	NM_015850	12, 17	Fusion, Kinase Domain Duplication	3'
<i>FGFR1</i>	NM_023110	4, 13, 14	Mutation	p.T141,p.V561,p.K656
<i>FGFR2</i>	NM_000141	2*, 3, 5, 6, 7, 8, 9, 10	Fusion	5'
<i>FGFR2</i>	NM_000141	16, 17, 18	Fusion	3'
<i>FGFR2</i>	NM_000141	7, 9, 12, 13, 14	Mutation	p.S252-p.P253,p.G305,p.Y375-V395,p.I547-p.N549,p.V564,p.A648-p.K659
<i>FGFR3</i>	NM_000142	3, 5, 8, 9, 10, 11, 12, 13, 14	Fusion	5'
<i>FGFR3</i>	NM_000142	16, 17, intron17, mid-exon18	Fusion	3'
<i>FGFR3</i>	NM_000142	7, 9, 13, 14, 16	Mutation	p.R248-p.S249,p.G370-p.R399,p.V555,p.D641-p.K650,p.G697-p.K715

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<i>FGR</i>	NM_005248	2*, 3	Fusion	5'
<i>FOS</i>	NM_005252	mid-exon4	Fusion	3'
<i>FOSB</i>	NM_006732	1*, mid-exon1*, 1, 2	Fusion	5'
<i>FOXO1</i>	NM_002015	1*, 2, 3*	Fusion	5'
<i>FOXO1</i>	NM_002015	1*, 2*, 3*	Fusion	3'
<i>FOXO4</i>	NM_005938	2, mid-exon2, 3	Fusion	5'
<i>FOXR2</i>	-	cryptic upstream exon2,3 (chrX:55562068, chrX:55634636)	Fusion	5'
<i>FUS</i>	NM_004960	3, 4, 5, mid-exon6, 6, 7, 8, 9, 10, 11, 13, 14	Fusion	3'
<i>GLI1</i>	NM_005269	4, 5, 6, 7	Fusion	5'
<i>GLI1</i>	NM_005269	4, 5, mid-exon5, 6, 7	Fusion	3'
<i>GRB7</i>	NM_005310	10, 11, 12	Fusion	5'
<i>HMGA2</i>	NM_003483	1, 2, 3, 4, mid- exon5*, 5*	Fusion	3'
<i>HRAS</i>	NM_005343	2, 3, 4	Mutation	p.G12- p.G13,p.Q61,p.K117,p.A 146
<i>IDH1</i>	NM_005896	4	Mutation	p.R132
<i>IDH2</i>	NM_002168	4	Mutation	p.R140, p.R172
<i>IGF1R</i>	NM_000875	13, 14, 15	Fusion	5'
<i>INSR</i>	NM_000208	2, 12, 13, 14, 15, 16, 17, 18, 19	Fusion	5'
<i>INSR</i>	NM_000208	20, 21, 22	Fusion	3'

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<i>JAK2</i>	NM_004972	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	Fusion	5'
<i>JAK2</i>	NM_004972	9, 10, 11, 12, 22	Fusion	3'
<i>JAK2</i>	NM_004972	12, 14, 16, 19, 20	Mutation	p.F537-p.F547,p.V617-p.C618,p.L681-p.R683, p.L855, p.V863
<i>JAK3</i>	NM_000215	10, 11, 12, 17, 18, 19	Fusion	5'
<i>JAK3</i>	NM_000215	23	Fusion	3'
<i>JAK3</i>	NM_000215	11, 17	Mutation	p.M511,p.S789
<i>JAZF1</i>	NM_175061	2, 3, 4	Fusion	3'
<i>KIT</i>	NM_000222	8	Fusion	5'
<i>KIT</i>	NM_000222	1	Fusion	3'
<i>KRAS</i>	NM_004985	2, 3, 4	Mutation	p.G12-p.G13,p.Q61,p.K117,p.A146
<i>MAML2</i>	NM_032427	2, 3	Fusion	5'
<i>MAML2</i>	NM_032427	2	Fusion	3'
<i>MAP2K1</i>	NM_002755	2	Fusion	5'
<i>MAP2K1</i>	NM_002755	2	Mutation	p.F53-p.D67
<i>MAST1</i>	NM_014975	7, 8, 9, 18, 19, 20, 21	Fusion	5'
<i>MAST2</i>	NM_015112	2, 3, 5, 6	Fusion	5'
<i>MAST2</i>	NM_015112	15, 16, 17	Fusion	3'
<i>MBTD1</i>	NM_017643	3*	Fusion	5'
<i>MBTD1</i>	NM_017643	15, 16, 17	Fusion	3'

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<i>MDM2</i>	NM_002392	5, 9	Fusion, Expression	5'
<i>MDM2</i>	NM_002392	2, 4, 6, 8, 10	Fusion, Expression	3'
<i>MEAF6</i>	NM_001270875	4, 5	Fusion	3'
<i>MET</i>	NM_000245	2, 4, 5, 6, 13, 14, 15, 16, 17, 21	Fusion, Exon 14 Skipping (MET Δ ex14)	5'
<i>MET</i>	NM_000245	2, 13	Fusion, Exon 14 Skipping (MET Δ ex14)	3'
<i>MGEA5</i>	NM_012215	4, 5, 6, 7, 8, 9, 12, 13, 14, 15	Fusion, Expression	5'
<i>MKL2</i>	NM_014048	11, 12, 13	Fusion	5'
<i>MN1</i>	NM_002430	1, 2	Fusion	3'
<i>MSMB</i>	NM_002443	2, 3, 4	Fusion	3'
<i>MUSK</i>	NM_005592	7, 9, 10, 12, 13, 14, 15	Fusion	5'
<i>MYB</i>	NM_001130173	7, 8, 9, 11, 12, 13, 14, 15, 16	Fusion	3'
<i>MYBL1</i>	NM_001080416	8, 9, mid-exon10, 10, 11, 12, 13, 14, 15	Fusion	3'
<i>MYC</i>	NM_002467	1, 2	Expression	3'
<i>MYC</i>	NM_002467	1*, mid-exon1*, 2, 3	Fusion, Expression	5'
<i>MYOD1</i>	NM_002478	1	Mutation	p.L122, full CDS coverage for mutation detection
<i>NCOA1</i>	NM_147223	11, 12, 13, 14, 15	Fusion	5'
<i>NCOA2</i>	NM_006540	11, 12, 13, 14, intron14, 15, 16, 22	Fusion	5'
<i>NCOA2</i>	NM_006540	14	Fusion	3'
<i>NCOA3</i>	NM_006534	2*, 13, 14, 15, 16	Fusion	5'

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<i>NCOA3</i>	NM_006534	20	Fusion	3'
<i>NFATC2</i>	NM_012340	2, 3, 9, 10	Fusion	5'
<i>NFE2L2</i>	NM_006164	1, 2, 3, 4, 5	Exon skipping, Fusion	5'
<i>NFIB</i>	NM_001369458	10, 11	Fusion	5'
<i>NFIB</i>	NM_005596	9*, mid-exon 9	Fusion	5'
<i>NFIB</i>	NM_005596	2	Fusion	3'
<i>NOTCH1</i>	NM_017617	2, 4, 24, 29, 30, 31	Fusion	3'
<i>NOTCH1</i>	NM_017617	5, 24, 25, 26, 27, 28, 29	Fusion, Exon Skipping (NOTCH1Δ2-27, NOTCH1Δ21-27, NOTCH1Δ3-27, NOTCH1Δ3-28)	5'
<i>NOTCH2</i>	NM_024408	24, 25, 26, 27, 28, 29	Fusion	5'
<i>NOTCH2</i>	NM_024408	5, 6, 7	Fusion	3'
<i>NR4A3</i>	NM_173200	2*, 3*, 4, 5, 7, 9	Fusion, Expression	5'
<i>NR4A3</i>	NM_173200	8	Fusion, Expression	3'
<i>NRAS</i>	NM_002524	2, 3, 4	Mutation	p.G12- p.G13,p.Q61,p.K117,p.A146
<i>NRG1</i>	NM_001159996	1*, 3, 4, 5	Fusion	5'
<i>NRG1</i>	NM_004495	1, 2, 3, 4, 5, 6	Fusion	5'
<i>NRG1</i>	NM_013958	1*	Fusion	5'
<i>NRG1</i>	NM_013959	1*, 3	Fusion	5'
<i>NRG1</i>	NM_013962	1*	Fusion	5'

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<i>NRG1</i>	NM_013962	1	Fusion	3'
<i>NTRK1</i>	NM_001007792	1, 2	Fusion	5'
<i>NTRK1</i>	NM_002529	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Fusion	5'
<i>NTRK1</i>	NM_002529	13, 14, 15, 16, 17	Mutation	Full Kinase Domain coverage for resistance mutations including p.G595
<i>NTRK2</i>	NM_006180	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	Fusion	5'
<i>NTRK2</i>	NM_006180	11, 14	Fusion	3'
<i>NTRK2</i>	NM_006180	16, 17, 18, 19, 20, 21	Mutation	Full Kinase Domain coverage for resistance mutations
<i>NTRK3</i>	NM_001007156	15	Fusion	5'
<i>NTRK3</i>	NM_002530	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	Fusion	5'
<i>NTRK3</i>	NM_002530	13, 14, 15, 17	Fusion	3'
<i>NTRK3</i>	NM_002530	15, 16, 17, 18, 19	Mutation	Full Kinase Domain coverage for resistance mutation detection including p.F617,p.G623,p.G696
<i>NUMBL</i>	NM_004756	2, 3	Fusion	5'
<i>NUTM1</i>	NM_175741	2*, 3, mid-exon3, 4, 5, mid-exon6, 6	Fusion	5'
<i>PAX3</i>	NM_181459	2, 4, 8	Fusion, Expression	5'
<i>PAX3</i>	NM_181459	3, 5, 6, 7, 8	Fusion, Expression	3'
<i>PAX8</i>	NM_003466	3	Fusion	5'
<i>PAX8</i>	NM_003466	1*, 2, 6, 7, 8, 9, 10	Fusion	3'

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<i>PDGFB</i>	NM_002608	2, 3	Fusion	5'
<i>PDGFD</i>	NM_025208	5, 6, 7	Fusion	5'
<i>PDGFRA</i>	NM_006206	10, 11, 12, mid-exon12, 13, 14, 15	Fusion,PDGFRAΔ8,9	5'
<i>PDGFRA</i>	NM_006206	7	Fusion,PDGFRAΔ8,9	3'
<i>PDGFRA</i>	NM_006206	15, 18	Mutation	p.T674,p.D842
<i>PDGFRB</i>	NM_002609	8, 9, 10, 11, 12, mid-exon12, 13, 14	Fusion	5'
<i>PHF1</i>	NM_024165	1*, 2	Fusion	5'
<i>PHF1</i>	NM_024165	10, 11, 12	Fusion	3'
<i>PHKB</i>	NM_000293	4	Fusion	3'
<i>PIK3CA</i>	NM_006218	2, 15	Fusion	5'
<i>PIK3CA</i>	NM_006218	2, 3, 5, 6, 8, 10, 14, 21	Mutation	p.E81K- p.G118D,p.L339- p.D350,p.G364R,p.E418 -p.C420,p.E453- p.K468,p.P539- p.Q546,p.E726,p.Y1021- p.T1052
<i>PKN1</i>	NM_002741	10, 11, 12, 13	Fusion	5'
<i>PLAG1</i>	NM_002655	1, 2, 3, 4	Fusion	5'
<i>PPARG</i>	NM_015869	1, 2, 3	Fusion	5'
<i>PRDM10</i>	NM_020228	13, 14	Fusion	5'
<i>PRKACA</i>	NM_002730	2	Fusion	5'
<i>PRKACB</i>	NM_182948	2, 3, 4	Fusion	5'

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<i>PRKCA</i>	NM_002737	4, 5, 6, 9, 15	Fusion	5'
<i>PRKCB</i>	NM_002738	1, 3, 7, 8, 9	Fusion	5'
<i>PRKCD</i>	NM_006254	9, 10, 11, 12, 15	Fusion	5'
<i>PRKCD</i>	NM_006254	18	Fusion	3'
<i>PRKD1</i>	NM_002742	2, 10, 11, 12, 13	Fusion	5'
<i>PRKD2</i>	NM_016457	10, 11, 12, 13	Fusion	5'
<i>PRKD3</i>	NM_005813	10, 11, 12, 13	Fusion	5'
<i>RAD51B</i>	NM_133509	8	Fusion	5'
<i>RAD51B</i>	NM_133509	3, 4, 5, 6, 7, 8, 9	Fusion	3'
<i>RAF1</i>	NM_002880	2*, 4, 5, 6, 7, 8, 9, 10, 11, 12	Fusion	5'
<i>RAF1</i>	NM_002880	4, 5, 6, 7, 8, 9	Fusion	3'
<i>RELA</i>	NM_021975	1, 2, 3, 4, 11	Fusion	5'
<i>RET</i>	NM_020630	2, 4, 6, 8, 9, 10, 11, mid-exon11, 12, 13, 14	Fusion	5'
<i>RET</i>	NM_020630	15, 16	Mutation	p.A883,p.M918
<i>ROS1</i>	NM_002944	2, 4, 7, 31, 32, 33, 34, 35, 36, 37	Fusion	5'
<i>ROS1</i>	NM_002944	38	Mutation	p.G2032
<i>RSPO2</i>	NM_178565	1, 2*, 3*	Fusion	5'
<i>RSPO3</i>	NM_032784	2	Fusion	5'
<i>SS18</i>	NM_001007559	2, 3, 4, 5, 6, 10, 11	Fusion	5'

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SS18	NM_001007559	4, 5, 6, 8, 9, 10	Fusion	3'
SS18L1	NM_198935	1, 2, 3, 8, 9, 10	Fusion	3'
STAT6	NM_001178078	1*, 2*, 3, 4, 5, 6, 7, 15, 16, 17, 18, 19, 20	Fusion	5'
TAF15	NM_139215	6, 7	Fusion	5'
TAF15	NM_139215	5, 6, 7, 9	Fusion	3'
TCF12	NM_207036	4, 5, 6	Fusion	3'
TERT	NM_198253	2, 3, 5, 7, 10, 11, 12	Fusion,Expression	5'
TERT	NM_198253	3, 9, 15	Fusion,Expression	3'
TFE3	NM_006521	2, 3, 4, 5, 6, 7, 8	Fusion	5'
TFE3	NM_006521	2, 3, 4, 5, 6	Fusion	3'
TFEB	NM_007162	1*, 2*, 3, mid-exon3, 4, mid-exon4, mid-exon 5, 6	Fusion	5'
TFEB	NM_007162	9, mid-exon 10	Fusion	3'
TFG	NM_006070	6	Fusion	5'
TFG	NM_006070	3, 4, 5, 6, 7, mid-exon8	Fusion	3'
THADA	NM_022065	24, 25, 26, 27, 28, 29, 30, 31, 36, 37	Fusion	3'
TMPRSS2	NM_001135099	1	Fusion	3'
TMPRSS2	NM_005656	1*, 2, 3, 4, 5, 6	Fusion	3'
USP6	NM_004505	1*, mid-exon1*, 2*, 3	Fusion	5'
VGLL2	NM_182645	1, 2, 3, intron3, 4	Fusion	3'
WWTR1	NM_015472	3, 4	Fusion	5'
WWTR1	NM_015472	3, 4	Fusion	3'
YAP1	NM_001130145	1, mid-exon1, 2, 3, 4, 8, 9	Fusion	5'
YAP1	NM_001130145	1, 2, 3, 4, 5, 6, 7	Fusion	3'
YWHAE	NM_006761	5	Fusion	3'