

OncoSeq v6a Assay Test Definition

The OncoSeq v6a Assay covers all or parts of 1,792 genes that have been implicated in cancer. The assay design consists of approximately 4.5 Mb of target sequence including exons of targeted genes as well as regions added for technical reasons. A complete gene list is appended below.

The OncoSeq v6a Assay tests for somatic mutations in 1,779 protein coding genes and reports nonsynonymous somatic single nucleotide variants (SNVs), plus splicing variants (up to 2 bases into an intron) that are present at 5% or greater allelic fraction in the tumor sample. The assay covers somatic single nucleotide variants (SNVs), small insertions and deletions (indels), and indels up to exon length. The assay also reports variants as low as 1% allelic fraction if the variant exists with sufficient read support. Variants are annotated to RefSeq and reported with respect to the most commonly reported isoform, if there are multiple relevant annotations. An additional 13 noncoding or HLA loci genes are targeted for detection of LOH only and somatic variants are not reported in these genes.

The OncoSeq v6a Assay reports germline variants in 182 cancer predisposition genes. Variants at less than 0.5% population frequency are reported. The list of 182 cancer predisposition genes is appended at the end of this document.

OncoSeq validation against Sanger sequencing and externally generated data indicates that the assay has above 90% sensitivity for the detection of clonal mutations in samples with at least 20% tumor purity, and above 90% positive predictive value.

In cases where a matched normal sample is unavailable or of unacceptable quality, the OncoSeq v6a Assay filters by population frequencies instead of presence in the normal sample; this process recovers approximately 97% of the real somatic variants but also calls some private germline variants that cannot be distinguished from somatic mutations.

OncoSeq v6a Assay Gene List (genes in *italics>* do not have somatic variants reported)

| | | | | | |
|----------|---------|--------|----------|----------|----------|
| AATK | ABCA1 | ABCB1 | ABCB11 | ABCB4 | ABCC1 |
| ABCC2 | ABCG1 | ABCG2 | ABI1 | ABL1 | ABL2 |
| ABRAXAS1 | ACD | ACE | ACSL6 | ACTA2 | ACTC1 |
| ACVR1 | ACVR1B | ACVR2A | ACVR2B | ACVRL1 | ADAM17 |
| ADAMTS20 | ADGRA2 | ADGRB3 | ADGRL2 | ADGRL3 | ADRB1 |
| ADRB2 | AFF1 | AFF2 | AFF3 | AHR | AIP |
| AJUBA | AKAP9 | AKT1 | AKT2 | AKT3 | ALK |
| ALKBH6 | ALOX12B | ALOX5 | AMER1 | APC | APEX1 |
| APH1A | APOA1 | APOB | APOBEC3A | APOBEC3B | AR |
| ARAF | AREG | ARFRP1 | ARHGAP10 | ARHGAP26 | ARHGAP35 |
| ARHGEF12 | ARID1A | ARID1B | ARID2 | ARID5B | ARNT |

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|----------|---------|---------|---------|---------|----------|
| ARNT2 | ARPC1A | ARPC1B | ARTN | ARX | ASCL1 |
| ASCL2 | ASCL3 | ASCL4 | ASCL5 | ASH1L | ASH2L |
| ASPSR1 | ASXL1 | ASXL2 | ASXL3 | ATAD2 | ATAD2B |
| ATF1 | ATM | ATP1A1 | ATP2B3 | ATP6AP1 | ATP6AP2 |
| ATP6V1B2 | ATR | ATRX | ATXN1 | AURKA | AURKB |
| AURKC | AXIN1 | AXIN2 | AXL | B2M | BACH1 |
| BACH2 | BAG4 | BAP1 | BARD1 | BAX | BAZ1A |
| BAZ1B | BAZ2A | BAZ2B | BBC3 | BCAR3 | BCL10 |
| BCL11A | BCL11B | BCL2 | BCL2A1 | BCL2L1 | BCL2L11 |
| BCL2L2 | BCL3 | BCL6 | BCL7A | BCL9 | BCL9L |
| BCOR | BCORL1 | BCR | BDNF | BID | BIRC2 |
| BIRC3 | BIRC5 | BIRC8 | BLK | BLM | BLNK |
| BMI1 | BMPR1A | BMPR1B | BMX | BPTF | BRAF |
| BRCA1 | BRCA2 | BRD1 | BRD2 | BRD3 | BRD4 |
| BRD7 | BRD8 | BRD9 | BRDT | BRIP1 | BRPF1 |
| BRPF3 | BRWD1 | BRWD3 | BTC | BTG1 | BTG2 |
| BTG3 | BTK | BTRC | BUB1 | BUB1B | BUB3 |
| CACNA1D | CADM2 | CALR | CAMTA1 | CAPRIN2 | CARD10 |
| CARD11 | CARD6 | CARD8 | CARD9 | CARM1 | (CASC11) |
| CASP8 | CBFA2T2 | CBFA2T3 | CBFB | CBL | CBLB |
| CBLC | CBX1 | CBX2 | CBX3 | CBX4 | CBX5 |
| CBX6 | CBX7 | CBX8 | CCDC6 | CCN1 | CCN2 |
| CCN3 | CCN4 | CCN5 | CCN6 | CCNB3 | CCND1 |
| CCND2 | CCND3 | CCNE1 | CCNE2 | CCNL1 | CD19 |
| CD1D | CD22 | CD274 | CD276 | CD28 | CD33 |
| CD38 | CD40 | CD40LG | CD44 | CD58 | CD70 |
| CD79A | CD79B | CD80 | CD86 | CDC14A | CDC20 |
| CDC25A | CDC25B | CDC25C | CDC42 | CDC6 | CDC73 |
| CDH1 | CDH10 | CDH11 | CDH2 | CDH20 | CDH3 |
| CDH5 | CDH7 | CDK1 | CDK10 | CDK12 | CDK13 |
| CDK14 | CDK15 | CDK16 | CDK17 | CDK18 | CDK19 |
| CDK2 | CDK20 | CDK3 | CDK4 | CDK5 | CDK6 |
| CDK7 | CDK8 | CDK9 | CDKN1A | CDKN1B | CDKN1C |
| CDKN2A | CDKN2B | CDKN2C | CDKN3 | CDX1 | CDX2 |
| CEBPA | CEBPB | CEBPD | CEBPE | CEBPG | CEBPZ |
| CECR2 | CENPE | CES1 | CES2 | CHCHD7 | CHD1 |
| CHD1L | CHD2 | CHD3 | CHD4 | CHD5 | CHD6 |
| CHD7 | CHD9 | CHEK1 | CHEK2 | CHIC1 | CHIC2 |
| CHUK | CIC | CIITA | CILK1 | CKS1B | CKS2 |
| CLIP1 | CMPK1 | CNKSR1 | CNOT3 | CNTFR | COMT |
| COPS3 | CRBN | CREB1 | CREB3L1 | CREB3L2 | CREB3L4 |
| CREBBP | CREM | CRHR1 | CRK | CRKL | CRLF2 |
| CRTC1 | CRTC2 | CRTC3 | CSF1 | CSF1R | CSF2RA |
| CSF2RB | CSF3R | CSK | CSNK1A1 | CSNK1D | CSNK1E |
| CTCF | CTCFL | CTLA4 | CTNNA1 | CTNNA2 | CTNNA3 |
| CTNNB1 | CTNND1 | CTSD | CTSL | CTSS | CUL3 |
| CUL4A | CUL4B | CUX1 | CXCR4 | CYLD | CYP17A1 |
| CYP1A2 | CYP21A2 | CYP2A6 | CYP2B6 | CYP2C19 | CYP2C8 |

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|--------|---------|---------|--------|--------|---------|
| CYP2C9 | CYP2D6 | CYP2J2 | CYP2R1 | CYP3A4 | CYP3A5 |
| CYP4F2 | CYSLTR2 | DACH1 | DACH2 | DAXX | DBH |
| DCC | DCUN1D1 | DCUN1D2 | DDB2 | DDIT3 | DDR1 |
| DDR2 | DDX3X | DDX41 | DDX5 | DDX6 | DEK |
| DGCR8 | DHFR | DHH | DIAPH1 | DIAPH2 | DIAPH3 |
| DICER1 | DIRAS3 | DIS3 | DIS3L2 | DKC1 | DNM2 |
| DNMT1 | DNMT3A | DNMT3B | DNMT3L | DOCK2 | DOT1L |
| DPYD | DRD1 | DRD2 | DROSHA | DSC2 | DSG2 |
| DSP | DUSP22 | DVL1 | DVL2 | DVL3 | DYRK2 |
| E2F1 | E2F3 | E2F5 | E2F6 | E2F7 | EBF1 |
| ECT2L | EED | EGF | EGFR | EGR1 | EGR2 |
| EHF | EHMT1 | EHMT2 | EIF1AX | ELANE | ELF1 |
| ELF2 | ELF3 | ELF4 | ELF5 | ELK1 | ELK3 |
| ELK4 | ELOC | ELP1 | ELP3 | EML4 | EMSY |
| EP300 | EPAS1 | EPCAM | EPGN | EPHA1 | EPHA2 |
| EPHA3 | EPHA4 | EPHA5 | EPHA6 | EPHA7 | EPHA8 |
| EPHB1 | EPHB2 | EPHB3 | EPHB4 | EPHB6 | EPOR |
| ERBB2 | ERBB3 | ERBB4 | ERCC1 | ERCC2 | ERCC3 |
| ERCC4 | ERCC5 | EREG | ERF | ERG | ESCO1 |
| ESCO2 | ESPL1 | ESR1 | ESR2 | ESRRA | ETS1 |
| ETS2 | ETV1 | ETV2 | ETV3 | ETV3L | ETV4 |
| ETV5 | ETV6 | ETV7 | EWSR1 | EXT1 | EXT2 |
| EXTL1 | EZH1 | EZH2 | FADD | FANCA | FANCB |
| FANCC | FANCD2 | FANCE | FANCF | FANCG | FANCI |
| FANCL | FANCM | FAS | FASLG | FAT1 | FAT2 |
| FAT3 | FAT4 | FBN1 | FBXO11 | FBXO8 | FBXW11 |
| FBXW7 | FEN1 | FER | FES | FEV | FGF1 |
| FGF10 | FGF11 | FGF12 | FGF13 | FGF14 | FGF16 |
| FGF17 | FGF18 | FGF19 | FGF2 | FGF20 | FGF21 |
| FGF22 | FGF23 | FGF3 | FGF4 | FGF5 | FGF6 |
| FGF7 | FGF8 | FGF9 | FGFR1 | FGFR2 | FGFR3 |
| FGFR4 | FGR | FH | FHIT | FKBP10 | FKBP5 |
| FKBP9 | FLCN | FLI1 | FLT1 | FLT3 | FLT3LG |
| FLT4 | FOLH1 | FOS | FOSB | FOSL1 | FOSL2 |
| FOXA1 | FOXA2 | FOXA3 | FOXC1 | FOXG1 | FOXL1 |
| FOXL2 | FOXN1 | FOXN3 | FOXO1 | FOXO3 | FOXO4 |
| FOXP1 | FOXP2 | FOXP3 | FOXP4 | FOXQ1 | FOXR1 |
| FOXR2 | FRK | FRS2 | FRS3 | FSHR | FUBP1 |
| FUS | FYN | FZR1 | G6PC3 | G6PD | GAB1 |
| GAB2 | GABPA | GALNT12 | GATA1 | GATA2 | GATA3 |
| GATA4 | GATA5 | GATA6 | GDNF | GEN1 | GFI1 |
| GFI1B | GFRA4 | GGCX | GHR | GID4 | GLA |
| GLCCI1 | GLI1 | GLI2 | GLI3 | GLIS1 | GLIS2 |
| GLIS3 | GNA11 | GNA13 | GNAQ | GNAS | GNRHR |
| GOT1 | GPC3 | GPC5 | GPS2 | GRB10 | GRB2 |
| GRB7 | GREM1 | GRIN2A | GRK4 | GRK5 | GRM3 |
| GRM8 | GSK3A | GSK3B | GTF2I | GTPBP4 | GUCY1A2 |
| H1-2 | H1-3 | H1-4 | H1-5 | (H19) | H3-3A |

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|------------|------------|------------|------------|------------|-----------|
| H3-3B | H3C2 | H4C5 | HAX1 | HBEGF | HCK |
| HDAC1 | HDAC10 | HDAC11 | HDAC2 | HDAC3 | HDAC4 |
| HDAC5 | HDAC6 | HDAC7 | HDAC8 | HDAC9 | HDGF |
| HDGFRP3 | HELLS | HES1 | HES2 | HES4 | HEY1 |
| HEY2 | HGF | HIF1A | HIF1AN | (HLA-A) | (HLA-B) |
| (HLA-C) | (HLA-DPA1) | (HLA-DPB1) | (HLA-DQA1) | (HLA-DQB1) | (HLA-DRA) |
| (HLA-DRB1) | HLF | HLTF | HMGA1 | HMGA2 | HMGCR |
| HNF1A | HNF1B | HNRNPA3 | HOXA10 | HOXA11 | HOXA13 |
| HOXA3 | HOXA9 | HOXB13 | HOXB3 | HOXC10 | HOXC11 |
| HOXC13 | HOXD10 | HOXD11 | HOXD13 | HOXD3 | HOXD4 |
| HR | HRAS | HSD11B2 | HSD3B1 | HSP90AA1 | HSP90AB1 |
| HSPBAP1 | HTR1A | HTR2A | ICOS | ICOSLG | ID1 |
| ID2 | ID3 | ID4 | IDH1 | IDH2 | IFNLR1 |
| IGF1 | IGF1R | IGF2 | IGF2R | IHH | IKBIP |
| IKBKB | IKBKE | IKZF1 | IKZF2 | IKZF3 | IL10RA |
| IL10RB | IL11RA | IL12RB1 | IL12RB2 | IL13RA1 | IL15RA |
| IL17RA | IL17RB | IL17RC | IL18R1 | IL18RAP | IL1R1 |
| IL1R2 | IL1RAP | IL20RA | IL20RB | IL21R | IL22RA1 |
| IL22RA2 | IL23R | IL2RA | IL2RB | IL2RG | IL3 |
| IL3RA | IL4R | IL5RA | IL6R | IL6ST | IL7R |
| IL9R | ING1 | ING4 | INHBA | INPP4B | INSR |
| INSRR | INTS12 | IQGAP1 | IQGAP2 | IQGAP3 | IRAK1 |
| IRF4 | IRF5 | IRF6 | IRF8 | IRS1 | IRS2 |
| IRS4 | ITK | ITPKB | JADE1 | JAK1 | JAK2 |
| JAK3 | JARID2 | JAZF1 | JMJD1C | JMJD4 | JMJD6 |
| JMJD7 | JMJD8 | JUN | JUNB | JUND | JUP |
| KAT2A | KAT2B | KAT5 | KAT6A | KAT6B | KAT7 |
| KAT8 | KCNH2 | KCNJ5 | KCNQ1 | KDM1A | KDM1B |
| KDM2A | KDM2B | KDM3A | KDM3B | KDM4A | KDM4B |
| KDM4C | KDM4D | KDM5A | KDM5B | KDM5C | KDM5D |
| KDM6A | KDM6B | KDM7A | KDM8 | KDR | KDSR |
| KEAP1 | KEL | KHSRP | KIAA1804 | KIF1B | KIT |
| KITLG | KLF12 | KLF4 | KLF5 | KLF6 | KLF8 |
| KLHL6 | KMT2A | KMT2B | KMT2C | KMT2D | KMT2E |
| KMT5A | KMT5B | KMT5C | KNSTRN | KRAS | LATS1 |
| LATS2 | LCK | LDB1 | LDLR | LEF1 | LEPR |
| LGR4 | LGR5 | LGR6 | LHCGR | LIFR | LMNA |
| LMO1 | LMO2 | LMO7 | LMTK2 | LMTK3 | LPP |
| LRP1B | LRP5 | LRP6 | LRRK2 | LSM1 | LTK |
| LYL1 | LYN | LZTR1 | MAD1L1 | MAD2L1 | MAD2L2 |
| MAF | MAFB | MAGED1 | MAGI2 | MAK | MALT1 |
| MAML1 | MAML2 | MAML3 | MAMLD1 | MAOA | MAP2K1 |
| MAP2K2 | MAP2K3 | MAP2K4 | MAP2K5 | MAP2K6 | MAP2K7 |
| MAP3K1 | MAP3K10 | MAP3K11 | MAP3K12 | MAP3K13 | MAP3K14 |
| MAP3K15 | MAP3K19 | MAP3K2 | MAP3K3 | MAP3K4 | MAP3K5 |
| MAP3K6 | MAP3K7 | MAP3K8 | MAP3K9 | MAP4 | MAP4K1 |
| MAP4K2 | MAP4K3 | MAP4K4 | MAP4K5 | MAPK1 | MAPK10 |
| MAPK11 | MAPK12 | MAPK13 | MAPK14 | MAPK15 | MAPK3 |

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|---------|-----------|---------|---------|----------|---------|
| MAPK4 | MAPK6 | MAPK7 | MAPK8 | MAPK9 | MARCHF1 |
| MAST1 | MAST2 | MATK | MAU2 | MAX | MAZ |
| MBD1 | MBD3 | MBD4 | MC1R | MCL1 | MCM8 |
| MCPH1 | MDM2 | MDM4 | MECOM | MED12 | MED12L |
| MED29 | MEF2B | MEN1 | MERTK | MET | MGA |
| MGMT | MID1 | MINK1 | MIPOL1 | MITF | MLF1 |
| MLH1 | MLH3 | MLLT1 | MLLT10 | MLLT11 | MLLT3 |
| MLLT6 | MLST8 | MMP11 | MN1 | MNX1 | MOB1A |
| MOB1B | MOS | MPG | MPL | MRE11 | MRTFA |
| MRTFB | MSH2 | MSH3 | MSH4 | MSH6 | MSI2 |
| MST1 | MST1R | MTAP | MTCP1 | MTDH | MTOR |
| MUSK | MUTYH | MXD1 | MYB | MYBL1 | MYBL2 |
| MYBPC3 | MYC | MYCL | MYCN | MYD88 | MYH11 |
| MYH7 | MYL2 | MYL3 | MYLK | MYOD1 | NAB1 |
| NAB2 | NAT2 | NBN | NCK1 | NCK2 | NCOA1 |
| NCOA2 | NCOA3 | NCOA4 | NCOR1 | NCOR2 | NCSTN |
| NDRG1 | NEK1 | NEK10 | NEK11 | NEK2 | NEK3 |
| NEK4 | NEK5 | NEK6 | NEK7 | NEK8 | NEK9 |
| NF1 | NF2 | NFATC1 | NFATC2 | NFATC3 | NFATC4 |
| NFE2L2 | NFE2L3 | NFIA | NFIB | NFIC | NFIX |
| NFKB1 | NFKB2 | NFKBIA | NFKBIB | NFKBID | NFKBIE |
| NFKBIZ | NGF | NHP2 | NIPBL | NKX2-1 | NKX2-2 |
| NKX2-3 | NKX2-4 | NKX2-5 | NKX2-6 | NKX2-8 | NKX3-1 |
| NKX3-2 | NLRP1 | NOD2 | NONO | NOP10 | NOTCH1 |
| NOTCH2 | NOTCH2NLA | NOTCH3 | NOTCH4 | NPM1 | NPPB |
| NPR1 | NQO1 | NR0B1 | NR3C1 | NR3C2 | NR4A1 |
| NR4A2 | NR4A3 | NRAS | NRG1 | NRG2 | NRG3 |
| NRG4 | NRIP1 | NRTN | NSD1 | NSD2 | NSD3 |
| NT5C2 | NTF3 | NTF4 | NTHL1 | NTRK1 | NTRK2 |
| NTRK3 | NUDT15 | NUMB | NUMBL | NUP214 | NUP93 |
| NUP98 | OLIG2 | OSMR | PAK1 | PAK2 | PAK3 |
| PAK4 | PAK5 | PAK6 | PALB2 | PALLD | PARP1 |
| PARP2 | PARP3 | PARP4 | PATZ1 | PAX1 | PAX2 |
| PAX3 | PAX4 | PAX5 | PAX6 | PAX7 | PAX8 |
| PAX9 | PAXIP1 | PBRM1 | PBX1 | PBX2 | PBX3 |
| PBX4 | PCBP1 | PCSK9 | PDCD1 | PDCD1LG2 | PDGFA |
| PDGFB | PDGFC | PDGFD | PDGFRA | PDGFRB | PK1 |
| PDPK1 | PDS5A | PDS5B | PEAR1 | PEG3 | PERP |
| PGF | PGR | PHB | PHF1 | PHF2 | PHF6 |
| PHF8 | PHIP | PHLPP1 | PHLPP2 | PHOX2A | PHOX2B |
| PICALM | PIK3C2A | PIK3C2B | PIK3C2G | PIK3C3 | PIK3CA |
| PIK3CB | PIK3CD | PIK3CG | PIK3R1 | PIK3R2 | PIK3R3 |
| PIK3R4 | PIM1 | PIM2 | PIM3 | PKHD1 | PKP2 |
| PLA2G2A | PLAG1 | PLAGL1 | PLAGL2 | PLCB1 | PLCB2 |
| PLCB3 | PLCB4 | PLCG1 | PLCG2 | PLK1 | PLK2 |
| PLK3 | PLK4 | PMAIP1 | PML | PMS1 | PMS2 |
| PNRC1 | POLD1 | POLE | POR | POT1 | POU2AF1 |
| POU2F2 | POU5F1 | POU5F1B | POU5F2 | POU6F1 | POU6F2 |

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|----------|---------|---------|---------|----------|---------|
| PPARA | PPARD | PPARG | PPFIA1 | PPM1D | PPP1R1C |
| PPP2R1A | PPP2R1B | PPP2R2A | PPP2R2B | PPP2R2C | PPP2R2D |
| PPP6C | PRCC | PRDM1 | PRDM10 | PRDM11 | PRDM12 |
| PRDM13 | PRDM14 | PRDM15 | PRDM16 | PRDM2 | PRDM4 |
| PRDM5 | PRDM6 | PRDM7 | PRDM8 | PRDM9 | PREX2 |
| PRF1 | PRKACA | PRKACB | PRKAG2 | PRKAR1A | PRKAR1B |
| PRKCI | PRKD1 | PRKDC | PRKN | PRLR | PRMT1 |
| PRMT2 | PRMT3 | PRMT5 | PRMT6 | PRMT7 | PRMT8 |
| PRPF40B | PRPF6 | PRPS1 | PRRX1 | PRRX2 | PRSS1 |
| PRSS3 | PRSS8 | PSEN1 | PSEN2 | PSENEEN | PSIP1 |
| PSPN | PTCH1 | PTCH2 | PTEN | PTGIS | PTGS1 |
| PTGS2 | PTK2 | PTK2B | PTK6 | PTK7 | PTPN11 |
| PTPN13 | PTPN14 | PTPN2 | PTPN21 | PTPN22 | PTPN6 |
| PTPRB | PTPRC | PTPRD | PTPRF | PTPRG | PTPRJ |
| PTPRK | PTPRM | PTPRQ | PTPRR | PTPRT | PTTG1 |
| (PVT1) | QKI | RAB23 | RAB25 | RABEP1 | RAC1 |
| RAC2 | RAD21 | RAD50 | RAD51 | RAD51AP1 | RAD51B |
| RAD51C | RAD51D | RAD52 | RAD54B | RAD54L | RAF1 |
| RAP1GDS1 | RARA | RARB | RARG | RASA1 | RASA2 |
| RB1 | RBM10 | RBM14 | RBM15 | RBPJ | REC8 |
| RECQL4 | REL | RELA | RELB | REST | RET |
| RHEB | RHOA | RHOB | RHOH | RHOT1 | RICTOR |
| RIPK1 | RIPK2 | RIPK3 | RIPK4 | RIT1 | RNF213 |
| RNF40 | RNF43 | ROBO2 | ROCK1 | ROCK2 | ROR1 |
| ROR2 | ROS1 | RPA1 | RPL10 | RPL22 | RPL5 |
| RPN1 | RPS6KB1 | RPS6KB2 | RPTOR | RRAGC | RRM1 |
| RSF1 | RSPO2 | RSPO3 | RUNDC3B | RUNX1 | RUNX1T1 |
| RUNX2 | RUNX3 | RUVBL1 | RXRA | RYK | SAMD9 |
| SAMD9L | SAV1 | SBDS | SCN5A | SDHA | SDHAF2 |
| SDHB | SDHC | SDHD | SEM1 | SET | SETBP1 |
| SETD1A | SETD1B | SETD2 | SETD3 | SETD4 | SETD5 |
| SETD6 | SETD7 | SETD9 | SETDB1 | SETDB2 | SETMAR |
| SF1 | SF3A1 | SF3B1 | SFPQ | SFRP1 | SGK1 |
| SGO1 | SGO2 | SH2B3 | SH2D1A | SH3GL1 | SHB |
| SHC1 | SHC2 | SHC3 | SHC4 | SHH | SHOC2 |
| SIN3A | SIX1 | SKI | SKIL | SKOR1 | SKP2 |
| SLAMF7 | SLC15A2 | SLC19A1 | SLC22A1 | SLC22A2 | SLC22A3 |
| SLC22A6 | SLC26A3 | SLC47A1 | SLC47A2 | SLC6A3 | SLC6A4 |
| SLCO1A2 | SLCO1B1 | SLCO1B3 | SLCO2B1 | SLIT2 | SLX4 |
| SMAD1 | SMAD2 | SMAD3 | SMAD4 | SMAD5 | SMAD6 |
| SMAD7 | SMAD9 | SMARCA1 | SMARCA2 | SMARCA4 | SMARCA5 |
| SMARCAD1 | SMARCB1 | SMARCC1 | SMARCD1 | SMARCD2 | SMARCD3 |
| SMARCE1 | SMC1A | SMC1B | SMC2 | SMC3 | SMC4 |
| SMC5 | SMC6 | SMCHD1 | SMO | SMURF1 | SMURF2 |
| SMYD1 | SMYD2 | SMYD3 | SMYD4 | SMYD5 | SOCS1 |
| SOS1 | SOS2 | SOX1 | SOX10 | SOX17 | SOX2 |
| SOX21 | SOX3 | SOX4 | SOX8 | SOX9 | SP100 |
| SP110 | SP140 | SP140L | SP3 | SPDEF | SPEN |

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|---------|----------|----------|----------|----------|---------|
| SPI1 | SPIB | SPIC | SPOP | SPOPL | SPRED1 |
| SPRED2 | SPRED3 | SPRY2 | SPRY3 | SRC | SRGAP3 |
| SRMS | SRSF2 | SRY | SS18 | SS18L1 | SSTR1 |
| SSTR2 | SSTR3 | SSTR4 | SSTR5 | SSX1 | SSX2 |
| SSX3 | STAG1 | STAG2 | STARD3 | STAT1 | STAT2 |
| STAT3 | STAT4 | STAT5A | STAT5B | STAT6 | STK11 |
| STK19 | STK3 | STK36 | STK4 | STYK1 | SUFU |
| SULT1A1 | SUV39H1 | SUV39H2 | SUZ12 | SYK | TAF1 |
| TAF15 | TAF1L | TAL1 | TAL2 | TAOK1 | TAOK2 |
| TAOK3 | TAP1 | TAP2 | TBC1D12 | TBL1X | TBL1XR1 |
| TBP | TBX18 | TBX2 | TBX22 | TBX3 | TBXAS1 |
| TBXT | TCF12 | TCF3 | TCF4 | TCF7 | TCF7L1 |
| TCF7L2 | TCL1A | TCL1B | TEAD1 | TEAD2 | TEAD3 |
| TEAD4 | TEC | TEF | TEK | TENM2 | TENT5C |
| (TERC) | TERF1 | TERT | TET1 | TET2 | TET3 |
| TFE3 | TFEB | TFEC | TFG | TGFA | TGFB1 |
| TGFB2 | TGFBR1 | TGFBR2 | THADA | THPO | TIE1 |
| TINF2 | TLK1 | TLK2 | TLR1 | TLR10 | TLR2 |
| TLR4 | TLR5 | TLR6 | TLR7 | TLR8 | TLR9 |
| TLX1 | TLX2 | TLX3 | TMC6 | TMC8 | TMEM127 |
| TMEM43 | TMPRSS2 | TNFAIP3 | TNFRSF14 | TNFRSF17 | TNFRSF8 |
| TNFRSF9 | TNK1 | TNK2 | TNKS | TNKS2 | TNNI3 |
| TNNT2 | TOP1 | TOP2A | TOP2B | TP53 | TP53BP1 |
| TP63 | TPM1 | TPMT | TPTE | TRAF1 | TRAF2 |
| TRAF3 | TRAF3IP1 | TRAF3IP2 | TRAF3IP3 | TRAF6 | TRAF7 |
| TRIB1 | TRIB2 | TRIB3 | TRIM24 | TRIM28 | TRIM33 |
| TRIM66 | TRIO | TRIP13 | TRPS1 | TRRAP | TSC1 |
| TSC2 | TSHR | TSHZ3 | TTC6 | TWIST1 | TWIST2 |
| TXK | TYK2 | TYMS | TYRO3 | U2AF1 | U2AF2 |
| UBE2D1 | UBE2D2 | UBE2D3 | UBE2D4 | UBE4A | UBR5 |
| UGT1A1 | UGT1A4 | UHRF1 | UHRF2 | USB1 | USP6 |
| USP7 | USP8 | USP9X | USP9Y | UTY | VAV1 |
| VAV2 | VAV3 | VDR | VEGFA | VEGFB | VEGFC |
| VEGFD | VGLL1 | VGLL2 | VGLL3 | VGLL4 | VHL |
| VHLL | VKORC1 | VTCN1 | WAPL | WAS | WASL |
| WIF1 | WNK1 | WNK2 | WNK3 | WNK4 | WNT1 |
| WNT10A | WNT10B | WNT11 | WNT16 | WNT2 | WNT2B |
| WNT3 | WNT3A | WNT4 | WNT5A | WNT5B | WNT6 |
| WNT7A | WNT7B | WNT8A | WNT8B | WNT9A | WNT9B |
| WRN | WT1 | WWTR1 | XBP1 | XIAP | XIRP2 |
| XPA | XPC | XPO1 | XRCC2 | YAP1 | YEATS4 |
| YES1 | YWHAB | YWHAE | YWHAH | YWHAQ | YWHAZ |
| YY1 | ZAP70 | ZBTB16 | ZBTB20 | ZBTB33 | ZBTB5 |
| ZBTB7B | ZC3H12A | ZC3H12D | ZC3H7B | ZCCHC7 | ZEB2 |
| ZFHX3 | ZFP36L1 | ZFP36L2 | ZMYM2 | ZMYM3 | ZMYND11 |
| ZMYND8 | ZNF217 | ZNF292 | ZNF384 | ZNF423 | ZNF444 |
| ZNF471 | ZNF521 | ZNF607 | ZNF639 | ZNF668 | ZNF703 |
| ZNF704 | ZNF750 | ZNRF3 | ZRSR2 | | |

OncoSeq v6a Assay 182 Genes for Germline Variant Reporting

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|----------|---------|---------|---------|---------|---------|
| ABRAXAS1 | AIP | AKT1 | ALK | APC | ATM |
| ATR | AURKA | AXIN2 | BAP1 | BARD1 | BLM |
| BMPR1A | BRAF | BRCA1 | BRCA2 | BRIP1 | BUB1B |
| CASP8 | CBL | CCND1 | CDC73 | CDH1 | CDK4 |
| CDKN1B | CDKN1C | CDKN2A | CEBPA | CHEK1 | CHEK2 |
| CTNNA1 | CYLD | CYP21A2 | DDB2 | DICER1 | DKC1 |
| EGFR | ELANE | EPCAM | EPHB2 | ERCC1 | ERCC2 |
| ERCC3 | ERCC4 | ERCC5 | ETV6 | EXT1 | EXT2 |
| FANCA | FANCB | FANCC | FANCD2 | FANCE | FANCF |
| FANCG | FANCI | FANCL | FANCM | FAS | FASLG |
| FH | FLCN | G6PC3 | GALNT12 | GATA2 | GEN1 |
| GFI1 | GPC3 | GREM1 | HAX1 | HOXB13 | HOXD4 |
| HRAS | IDH1 | IDH2 | IGF1 | IGF2 | JAK2 |
| KIF1B | KIT | KRAS | LZTR1 | MAP2K1 | MAP2K2 |
| MAX | MC1R | MEN1 | MET | MITF | MLH1 |
| MLH3 | MPL | MRE11 | MSH2 | MSH3 | MSH6 |
| MUTYH | NBN | NF1 | NF2 | NHP2 | NOP10 |
| NRAS | NSD1 | NTRK1 | PALB2 | PALLD | PAX5 |
| PDGFRA | PDGFRB | PHB | PHOX2B | PIK3CA | PLA2G2A |
| PMS1 | PMS2 | POLD1 | POLE | POT1 | POU6F2 |
| PPARG | PPM1D | PRKAR1A | PRKN | PRSS1 | PTCH1 |
| PTCH2 | PTEN | PTPN11 | PTPRJ | RAD50 | RAD51 |
| RAD51B | RAD51C | RAD51D | RAD54L | RAF1 | RB1 |
| RECQL4 | RET | RUNX1 | SBDS | SDHA | SDHAF2 |
| SDHB | SDHC | SDHD | SH2B3 | SH2D1A | SHOC2 |
| SLX4 | SMAD4 | SMAD7 | SMARCA4 | SMARCB1 | SOS1 |
| SPRED1 | STK11 | SUFU | TERT | TGFB1 | TGFBR1 |
| TGFBR2 | THPO | TINF2 | TLR2 | TLR4 | TMC6 |
| TMC8 | TMEM127 | TP53 | TP53BP1 | TSC1 | TSC2 |
| USB1 | VHL | WAS | WRN | WT1 | XPA |
| XPC | XRCC2 | | | | |