

# Verstandelijke beperking: syndromaal/niet syndromaal

Verstandelijke beperking

1601

VBE01v23.1

<b>Gennaam</b>	<b>CreV4 (15X)</b>	<b>SSv7 (15X)</b>
ARF1	100	100
LZTFL1	100	93.4
ERCC8	100	100
SAMD9	100	100
ECHS1	99.9	99.6
DHCR7	100	100
GPHN	100	100
TMEM231	100	100
SLC25A42	100	100
PISD	100	100
NKAP	100	93.2
PIGH	100	100
ZFYVE26	100	100
SMOC1	100	99.0
ABCD4	100	100
NPC2	100	100
ISCA2	100	100
FLVCR2	100	100
IRF2BPL	98.7	99.2
POMT2	100	100
GALC	100	99.8
ZC3H14	100	100
TTC8	100	96.0
CCDC88C	100	100
UBR7	100	99.0
VRK1	100	100
BCL11B	99.5	99.8
EML1	99.9	99.9
YY1	100	100
DYNC1H1	100	100
TECPR2	100	100
CDC42BPB	100	98.0
APOPT1	100	100
KIF26A	100	98.8
BRF1	100	99.5
PACS2	99.3	97.7
MAGEL2	100	100
UBE3A	100	100
GABRB3	100	100
KARS	100	100
WVOX	100	100
MAF	88.4	86.8
GCSH	81.6	99.4
MLYCD	100	99.9

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

FBXO31	100	99.8
CA5A	100	100
TRAPPC2L	100	100
ACSF3	100	100
CDH15	100	99.1
ANKRD11	100	100
CHMP1A	100	100
CDK10	100	100
TUBB3	100	99.8
VPS53	100	100
GEMIN4	100	100
INPP5K	100	100
WDR81	100	100
DPH1	100	100
PAFAH1B1	100	94.7
ASPA	100	100
KIAA0753	100	100
SLC13A5	100	100
DLG4	100	100
EIF5A	100	100
POLR2A	100	100
MPDU1	100	100
KDM6B	99.9	97.6
PEPD	100	100
UBA2	99.9	99.5
SCN1B	99.9	93.8
LGI4	100	100
COX6B1	100	100
KMT2B	98.2	96.1
SDHAF1	100	100
WDR62	100	100
YIF1B	100	100
PLEKHG2	100	100
TIMM50	100	100
SPTBN4	100	99.2
HNRNPUL1	99.7	99.8
BCKDHA	100	99.9
EXOSC5	100	100
RPS19	100	100
ATP1A3	100	100
ZNF526	100	100
ERF	100	99.6
CIC	100	100
MEGF8	99.9	99.9
ETHE1	100	94.5
SMG9	100	100
ERCC2	100	100
ERCC1	100	100
OPA3	100	100
NOVA2	95.1	93.1

Gennaam	CreV4 (15X)	SSv7 (15X)
FKRP	100	100
DEPDC5	100	100
LARGE	100	100
SOX10	100	100
PLA2G6	100	100
CBY1	100	100
CACNA1I	99.7	97.0
TNRC6B	100	97.8
ADSL	100	100
EP300	100	100
ACO2	100	100
NAGA	100	100
TCF20	100	100
CYB5R3	96.3	95.2
ALG12	100	100
MLC1	100	100
TUBGCP6	100	100
SCO2	100	100
CHKB	100	100
CHKB-CPT1B	100	100
ARSA	100	100
SHANK3	95.9	90.2
ARSE	100	100
NLGN4X	100	100
CLCN4	100	100
MID1	100	100
HCCS	100	100
MSL3	99.9	96.7
FRMPD4	100	100
LAMP2	100	100
CUL4B	100	98.2
GRIA3	100	99.9
THOC2	100	94.6
STAG2	100	98.2
OCRL	100	98.6
ZDHHC9	100	100
BCORL1	100	100
AIFM1	100	100
GPC4	100	100
GPC3	100	100
PHF6	100	97.6
HPRT1	100	93.1
SLC9A6	100	99.9
FGF13	100	99.9
SOX3	99.9	100
FMR1	100	99.6
AFF2	100	99.9
IDS	100	100
GABRA3	100	99.9
NSDHL	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

SLC6A8	97.6	98.9
BCAP31	100	99.8
ABCD1	98.7	98.1
SSR4	100	100
L1CAM	100	100
NAA10	100	100
HCFC1	100	100
SETD2	100	99.7
PTPN23	100	100
DHX30	100	100
TREX1	100	100
P4HTM	99.8	99.2
NDUF3AF3	100	100
QRICH1	100	100
QARS	100	100
AMT	100	100
DAG1	100	100
GMPPB	100	100
TRAIP	100	100
SLC38A3	100	100
NPRL2	100	100
CACNA2D2	99.7	96.9
DOCK3	100	100
ACY1	100	100
POC1A	100	100
GLYCTK	100	100
BAP1	100	100
RFT1	100	100
TKT	97.4	97.4
CACNA1D	100	100
HESX1	100	98.6
PRICKLE2	100	100
FOXP1	100	100
SHQ1	100	100
ROBO1	100	100
B3GALT6	85.9	82.2
ATAD3A	91.5	96.5
TMEM240	100	99.9
GNB1	100	100
GABRD	97.1	93.8
SKI	99.7	98.5
PEX10	100	100
TP73	100	100
CEP104	100	100
CHD5	99.9	97.8
CAMTA1	99.9	99.2
SLC45A1	100	100
RERE	100	99.9
NMNAT1	100	100
PEX14	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

MTOR	100	100
MTHFR	100	100
CLCN6	100	100
VPS13D	100	100
SPEN	100	100
GJC2	99.0	98.3
IBA57	100	99.8
GALNT2	100	99.9
ARV1	100	100
GNPAT	100	99.7
TBCE	100	100
B3GALNT2	100	100
MTR	100	100
FMN2	96.8	91.4
FH	100	100
SDCCAG8	100	100
AKT3	100	100
ZBTB18	99.9	99.9
HNRNPU	100	98.7
MYT1L	100	100
TRAPPC12	100	100
COLEC11	100	100
SOX11	100	100
KIDINS220	100	100
ODC1	100	100
MYCN	99.5	99.0
PTRHD1	100	100
DNMT3A	100	100
ASXL2	100	98.5
HADHA	100	100
DPYSL5	100	100
CAD	100	100
IFT172	100	100
NDUFAF2	100	99.3
ZSWIM6	95.4	96.2
KIF2A	100	99.2
CWC27	99.1	87.9
PIK3R1	100	100
OCLN	92.6	84.8
MCCC2	100	99.8
MAP1B	100	99.6
HEXB	100	98.6
GFM2	100	100
COL4A3BP	100	99.6
AP3B1	100	97.2
DHFR	100	98.5
XRCC4	100	100
MEF2C	100	100
NR2F1	96.9	98.7
TTC37	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

CHD1	100	95.6
SLC25A46	100	98.2
CAMK4	100	100
KCNN2	100	100
HSD17B4	100	95.3
CEP120	100	100
ALDH7A1	100	100
LMNB1	100	99.9
SLC12A2	100	98.4
LYRM7	100	93.2
AFF4	100	99.9
ASNS	100	100
TRRAP	99.9	99.7
AP4M1	100	100
TAF6	100	100
ACTL6B	100	100
GNB2	100	100
AP1S1	100	100
CUX1	99.2	97.6
PMPCB	100	100
RELN	100	100
KMT2E	100	99.9
PUS7	100	100
COG5	100	98.8
DLD	100	100
LAMB1	100	100
NRCAM	100	100
FOXP2	100	100
CAPZA2	100	94.5
KCND2	100	100
AASS	100	99.9
RBM28	100	100
CEP41	100	100
BRAF	100	99.1
TPK1	100	100
CNTNAP2	100	100
EZH2	100	100
RHEB	100	90.6
KMT2C	100	99.4
HRAS	100	100
DEAF1	98.6	93.8
SLC25A22	100	100
PIDD1	100	100
BRSK2	100	99.9
CTSD	100	100
TH	100	100
CDKN1C	86.4	82.6
CARS	100	100
PGAP2	100	100
SMPD1	100	100

<b>Gennaam</b>	<b>CreV4 (15X)</b>	<b>SSv7 (15X)</b>
TPP1	100	100
DCHS1	100	100
EIF3F	100	100
DENND5A	100	100
CTR9	100	100
FAR1	100	100
RRAS2	100	100
COPB1	100	99.0
SOX6	100	99.6
KCNJ11	100	100
KCNC1	100	100
PAX6	100	100
CAPRIN1	100	100
PDHX	100	100
SLC1A2	100	100
EXT2	100	100
ALX4	100	99.5
FOLR1	100	100
CLPB	100	100
PDE2A	99.9	100
C2CD3	100	100
PGM2L1	99.8	99.4
LIPT2	100	99.8
PAK1	100	100
ALG8	100	96.4
NARS2	99.2	96.5
EED	100	100
MED17	100	99.9
CEP57	100	100
CCDC82	100	100
YAP1	100	99.3
GRIA4	100	99.9
ALKBH8	100	100
ACAT1	100	99.2
ALG9	100	99.7
DLAT	100	99.9
PTS	100	100
ZBTB16	100	100
UBE4A	100	99.9
KMT2A	99.6	99.6
ARCN1	100	100
DDX6	100	100
TRAPPC4	100	100
VPS11	100	100
DPAGT1	100	100
ATP13A2	100	99.9
PPP1CB	100	100
ARL13B	100	100
PPP2CA	100	100
DPP6	99.7	98.9

Gennaam	CreV4 (15X)	SSv7 (15X)
SLC35C1	100	100
CBL	100	100
GABRA5	100	100
CHD3	98.5	96.4
KPTN	100	100
OFD1	100	99.1
MECP2	98.5	96.1
FLNA	100	99.6
RPL10	100	100
GDI1	100	100
FAM50A	100	100
LAGE3	99.9	96.8
IKBKG	36.4	36.8
DKC1	100	100
RAB39B	100	100
VAMP2	100	93.7
TMEM107	100	100
CTC1	100	100
MYH10	100	100
SCO1	100	100
ELAC2	100	100
COX10	100	100
TTC19	100	100
PIGL	100	100
RAI1	100	100
TOP3A	100	100
B9D1	100	100
ALDH3A2	100	100
SLC46A1	100	100
PIGS	100	100
TAOK1	100	99.3
NSRP1	99.9	88.1
NF1	100	99.7
SUZ12	100	87.3
PEX12	100	100
ZNHIT3	100	100
PIGW	100	100
PCGF2	100	100
NEUROD2	100	100
PGAP3	100	100
THRA	100	100
CDC6	100	100
SMARCE1	100	100
GLTSCR1	99.0	93.3
GRIN2D	96.5	81.0
PRR12	100	99.6
MED25	100	100
PNKP	100	100
KCNC3	92.8	88.1
EMC10	95.4	93.6



**Gennaam**      **CreV4 (15X)**      **SSv7 (15X)**

PPP2R1A	100	100
CNOT3	100	99.6
MBOAT7	100	100
TSEN34	100	100
TBC1D20	99.9	93.0
CSNK2A1	100	100
SNRPB	100	100
VPS16	100	100
ITPA	100	100
PANK2	100	100
CRLS1	99.3	99.8
PLCB1	100	99.9
SNAP25	100	100
MKKS	100	100
TASP1	100	100
NDUFAF5	100	100
NAPB	100	100
ASXL1	99.9	98.4
DNMT3B	100	99.9
AHCY	100	100
PIGU	100	99.7
GLRA2	100	100
PIGA	100	100
AP1S2	100	97.2
NHS	100	99.7
CDKL5	100	98.6
PDHA1	100	100
RPS6KA3	99.8	98.9
CNKSR2	100	99.4
MBTPS2	100	99.9
SMS	99.8	100
PTCHD1	100	100
KLHL15	100	100
EIF2S3	100	100
POLA1	100	99.0
ARX	93.1	88.0
IL1RAPL1	100	100
GK	100	95.8
TSPAN7	99.9	99.9
OTC	100	99.4
BCOR	100	100
ATP6AP2	100	100
USP9X	100	99.9
DDX3X	100	99.9
CASK	100	98.3
MAOA	100	100
NDP	100	100
KDM6A	100	99.9
SLC9A7	100	99.0
UPB1	100	100

<b>Gennaam</b>	<b>CreV4 (15X)</b>	<b>SSv7 (15X)</b>
MN1	100	100
AP1B1	100	100
TCN2	100	100
MORC2	100	100
RBM10	100	99.9
SYN1	100	100
FTSJ1	100	100
PORCN	100	99.8
EBP	100	100
PQBP1	100	100
SLC35A2	100	99.6
OTUD5	98.3	98.3
TFE3	100	99.8
WDR45	100	100
SYP	100	97.0
CCDC22	100	98.9
USP27X	100	100
SHROOM4	100	100
KDM5C	100	100
IQSEC2	99.6	98.9
SMC1A	100	100
HSD17B10	100	100
HUWE1	100	99.9
PHF8	100	100
FGD1	100	99.8
ARHGEF9	100	100
AMER1	100	100
ZC4H2	100	100
LAS1L	100	100
OPHN1	100	100
KIF4A	100	100
DLG3	100	100
MED12	100	99.9
CXorf56	100	100
UBE2A	100	100
UPF3B	100	88.8
RNF113A	100	100
NDUFA1	100	100
TXNDC15	100	100
NEUROG1	100	100
KDM3B	99.7	98.8
SIL1	100	100
PURA	100	100
NDUFA2	100	100
PCDHGC4	100	100
DIAPH1	99.0	99.7
PCDH12	100	100
YIPF5	100	100
CSF1R	100	100
PDGFRB	100	100

**Gennaam**      **CreV4 (15X)**      **SSv7 (15X)**

CAMK2A	100	100
NDST1	100	100
GM2A	100	100
GRIA1	100	100
GEMIN5	100	100
CYFIP2	100	100
THG1L	100	100
GABRB2	100	100
GABRA1	100	100
GABRG2	92.8	100
RARS	100	99.9
FBXW11	100	100
NSD1	100	100
B4GALT7	99.8	99.8
HNRNPAB	100	95.1
HNRNPH1	100	100
SHH	99.7	99.1
NCAPG2	100	99.6
CLN8	100	100
MCPH1	100	99.7
FDFT1	100	98.4
TUSC3	100	100
VPS37A	100	99.5
ASAH1	100	99.4
ATP6V1B2	100	100
LGI3	99.9	99.4
SLC39A14	100	100
RHOBTB2	100	100
ESCO2	100	100
EXTL3	100	100
TTI2	100	100
ERLIN2	100	100
PROSC	100	100
DDHD2	100	100
FGFR1	100	100
KAT6A	100	100
POMK	100	100
HGSNAT	99.6	94.6
CA8	100	100
CHD7	100	99.9
CSPP1	100	98.3
ARFGEF1	99.9	99.9
TMEM70	100	100
ZFHX4	100	99.9
PEX16	100	100
PHF21A	100	99.7
MADD	100	100
CLP1	100	100
TMX2	100	100
CTNND1	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

FAM111A	100	100
DDB1	100	100
DAK	100	100
TMEM216	100	100
BSCL2	100	100
HNRNPUL2	100	100
MARK2	99.1	99.9
KCNK4	100	98.7
DPF2	100	100
SCYL1	100	100
KAT5	100	100
RNASEH2C	100	100
FIBP	100	100
PACS1	99.7	94.9
B3GNT1	100	100
BBS1	100	100
SPTBN2	100	99.9
PC	100	100
NDUFV1	100	100
NDUFS8	100	100
CHKA	99.8	99.1
SUV420H1	100	100
SC5D	100	100
HEPACAM	100	99.9
TMEM218	100	100
STT3A	100	100
PUS3	100	100
CDON	100	100
FOXRED1	100	100
DCPS	100	100
KIRREL3	100	100
JAM3	100	100
KDM5A	100	99.8
CACNA1C	100	100
CCND2	100	100
C12orf4	100	99.3
KCNA1	100	100
CHD4	100	100
TPI1	100	99.8
ATN1	100	100
C12orf57	100	100
EMG1	100	100
PEX5	100	100
NECAP1	100	100
GRIN2B	100	100
MGP	100	92.4
ABCC9	100	100
SOX5	100	100
KRAS	100	100
PPFIBP1	100	100

**Gennaam CreV4 (15X) SSv7 (15X)**

HERC2	99.6	98.7
OTUD7A	96.9	97.4
SLC12A6	100	100
MEIS2	100	100
SPRED1	100	100
BUB1B	100	98.1
IVD	100	100
C15orf57	99.9	100
CASC5	98.0	98.9
UBR1	100	99.9
TUBGCP4	99.9	99.9
GATM	100	100
SPATA5L1	100	100
CEP152	100	97.2
AP4E1	100	100
DMXL2	100	99.9
GNB5	100	100
MYO5A	100	98.2
RAB27A	100	100
PIGB	100	95.6
RFX7	100	98.4
RORA	100	100
HERC1	100	100
CSNK1G1	100	100
MTFMT	100	99.9
RAB11A	100	100
MAP2K1	100	100
CLN6	100	99.8
COG4	100	100
VAC14	100	100
TAT	100	100
AP1G1	98.6	100
FA2H	100	99.6
ATP6V0A1	100	100
GSS	100	100
NLGN3	100	99.8
NAGLU	100	99.9
COASY	100	100
TUBG1	100	100
CNTNAP1	100	100
UBTF	100	99.9
EFTUD2	100	100
GFAP	100	100
KANSL1	100	100
PNPO	100	100
SPOP	100	100
CACNA1G	100	99.9
MKS1	100	100
BZRAP1	100	100
SMG8	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

CLTC	100	100
PTRH2	100	100
PPM1D	100	100
BCAS3	100	100
MED13	100	100
TLK2	100	100
TANC2	100	100
STRADA	100	100
CCDC47	100	100
PSMD12	100	100
BPTF	96.7	95.7
COG1	100	100
HID1	100	100
SLC25A19	100	100
SAMHD1	100	100
FITM2	100	100
PIGT	100	100
CTSA	100	100
ZNF335	100	100
SLC12A5	100	99.0
TP53RK	100	100
ARFGEF2	100	100
KCNB1	100	100
ADNP	100	100
DPM1	100	100
ATP9A	99.6	99.8
GNAS	100	99.9
TAF4	79.4	77.6
KCNQ2	100	97.6
EEF1A2	99.6	97.5
TIAM1	100	100
SCAF4	100	98.0
SYNJ1	100	97.7
SON	100	100
DONSON	100	97.4
ITSN1	100	99.8
HLCS	100	100
PIGP	100	100
DYRK1A	100	100
KCNJ6	100	100
PRDM15	97.6	97.0
WDR4	100	100
BRD4	98.4	97.3
SIN3B	100	97.9
GTPBP3	100	100
MAST3	99.9	98.4
PIK3R2	99.7	94.6
CBS	100	100
GCH1	100	92.7
OTX2	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

KIAA0586	95.4	99.8
TRMT5	100	100
FUT8	100	100
FEM1B	100	100
KIAA0195	100	100
PARP6	100	100
HEXA	100	100
BBS4	100	100
STRA6	100	100
SCAMP5	100	100
MAN2C1	100	100
SIN3A	100	100
SCAPER	100	99.5
TBC1D2B	98.3	99.1
AP3B2	100	100
WDR73	100	100
POLG	100	100
KIF7	99.8	97.3
IDH2	100	100
BLM	100	99.8
CHD2	100	99.8
IGF1R	100	100
LINS	100	100
POLR3K	100	100
NPRL3	100	100
CAPN15	99.8	99.5
PIGQ	100	100
GNPTG	100	100
TELO2	100	99.6
MAPK8IP3	100	100
MRPS34	100	100
GFER	100	100
TSC2	100	100
TSEN54	98.9	96.9
H3F3B	100	100
ACOX1	100	100
METTL23	100	100
CANT1	100	100
EIF4A3	100	99.9
SGSH	100	94.5
C17orf89	100	99.5
ACTG1	100	100
PCYT2	97.8	93.8
PYCR1	100	99.8
RAC3	94.6	91.5
WDR45B	100	100
TBCD	100	99.0
TGIF1	100	100
LAMA1	100	100
NDUFV2	100	99.1

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

PIEZO2	99.9	99.9
AFG3L2	100	92.9
RBBP8	100	99.8
NPC1	100	100
CDH2	99.9	98.5
RNF125	100	100
ASXL3	100	100
MAPRE2	100	100
ELP2	100	99.6
SETBP1	100	99.3
EPG5	100	100
C5orf42	100	99.0
HCN1	100	100
MOCS2	100	100
NDUFS4	100	100
PDE4D	99.6	99.6
TUBB2A	100	100
PEX2	100	100
IPO8	100	99.8
TRAF7	99.8	99.5
ATP5A1	100	100
TUBB2B	100	100
FARS2	100	100
TFAP2A	100	100
PHACTR1	100	99.7
TBC1D7	100	100
JARID2	100	100
SOX4	99.0	98.2
ALDH5A1	100	99.8
TDP2	100	100
GMNN	100	96.4
HIST1H4C	100	100
HIST1H1E	100	99.9
HIST1H4E	100	100
HIST1H4F	100	100
HIST1H4I	100	100
TUBB	98.8	100
VARs2	100	96.9
CSNK2B	100	100
ABHD16A	100	100
VARs	100	100
NEU1	100	100
SYNGAP1	99.2	97.8
UQCC2	100	100
MOCS1	100	100
FOXP4	99.4	99.3
TAF8	100	100
PEX6	100	99.9
PPP2R5D	100	100
IMPA1	100	97.6



Gennaam	CreV4 (15X)	SSv7 (15X)
CA2	100	100
NBN	100	100
OTUD6B	100	99.9
TMEM67	100	99.6
INTS8	100	97.7
PTDSS1	100	100
VPS13B	100	100
RRM2B	100	100
RIMS2	100	100
OXR1	100	100
RAD21	100	99.9
TAF2	100	99.8
KIAA0196	100	100
KCNQ3	100	99.6
KCNK9	100	100
TRAPPC9	100	100
AGO2	98.1	98.1
EEF1D	100	95.1
PUF60	100	100
GPAA1	100	100
RECQL4	100	100
SMARCA2	99.1	98.0
VLDLR	100	100
RFX3	100	100
GLIS3	100	100
KIAA1432	100	100
GLDC	100	100
GNAI1	100	100
CACNA2D1	99.5	94.8
PCLO	100	99.9
ADAM22	100	100
PEX1	100	96.6
MPDZ	100	100
ALDH4A1	100	100
EMC1	100	100
DDOST	100	100
CDC42	100	100
KDM1A	100	99.9
HNRNPR	100	100
GALE	100	100
HMGCL	100	100
FUCA1	100	100
DHDDS	100	100
ARID1A	99.1	97.3
PIGV	100	100
TMEM222	100	100
AHDC1	99.8	99.3
PUM1	100	100
YARS	100	100
NCDN	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

AGO1	100	100
ADPRHL2	99.9	100
SNIP1	100	100
MACF1	100	100
TRIT1	100	100
MFSD2A	100	100
PPT1	100	100
CCDC23	100	100
SLC2A1	100	100
SZT2	100	99.9
ST3GAL3	100	100
SPAST	100	100
EIF2AK2	98.6	99.4
SOS1	100	98.8
LRPPRC	100	99.8
PREPL	100	100
SIX3	100	99.8
PIGF	100	87.2
CRIP1	100	99.9
FBXO11	100	99.7
PPP1R21	100	100
NRXN1	99.1	100
SPTBN1	100	100
BCL11A	100	100
PEX13	100	100
XPO1	100	99.9
UGP2	100	100
SLC1A4	100	100
SPRED2	100	98.2
NFU1	100	95.8
SPR	100	100
ALMS1	100	99.9
TPRKB	100	92.7
STAMBP	100	100
TET3	100	100
BOLA3	100	98.9
MOGS	100	100
HTRA2	100	100
CTNNA2	100	100
ARL6	100	100
TBC1D23	100	99.1
ZBTB11	100	100
ATP6V1A	100	99.9
ZBTB20	100	100
ARHGAP31	100	100
TIMMDC1	100	100
UMPS	100	100
ZNF148	100	100
UROC1	100	100
PLXNA1	100	100

Gennaam	CreV4 (15X)	SSv7 (15X)
ACAD9	100	100
UBA5	100	99.5
PCCB	95.8	100
STAG1	100	98.0
MRAS	100	100
MRPS22	100	99.8
COPB2	100	99.6
ATR	100	99.9
ZIC1	100	99.8
RNF13	100	99.8
MED12L	99.9	100
PLCH1	100	99.9
SLC33A1	100	100
RSRC1	100	98.5
GFM1	100	100
CLDN11	100	100
TNIK	100	99.9
NFIB	100	99.5
PLAA	100	100
IFT74	100	95.7
APTX	100	100
B4GALT1	100	100
NUDT2	100	100
GALT	100	100
PIGO	100	100
RUSC2	100	100
PAX5	100	100
EXOSC3	100	100
SMC5	100	99.0
TRPM3	100	100
HNRNPK	100	99.4
NTRK2	100	100
AGTPBP1	100	98.2
AUH	100	98.8
ROR2	100	100
IARS	100	100
PTCH1	100	100
ERCC6L2	100	100
XPA	100	99.5
NANS	100	100
GABBR2	98.2	98.3
ALG2	100	100
SLC44A1	97.4	96.9
FKTN	100	100
ZNF462	100	100
DDX11	98.8	100
DNM1L	100	100
ARID2	100	100
DDX23	100	100
KMT2D	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

TUBA1A	100	100
SMARCD1	99.9	98.8
DIP2B	100	99.4
SCN8A	100	100
AAAS	100	100
BLOC1S1	100	99.9
SUOX	100	100
SMARCC2	100	100
PAN2	100	100
SHMT2	100	100
B4GALNT1	100	100
TSFM	92.7	100
TMEM5	100	99.7
GNS	100	99.7
NUP107	100	99.9
CNOT2	100	100
KCNC2	100	100
BBS10	100	100
SYT1	100	100
PPP1R12A	100	94.0
CEP290	100	84.8
TMTC3	100	99.6
ATP2B1	100	100
TBC1D24	100	100
SRRM2	100	100
THOC6	100	100
CREBBP	100	99.4
ROGDI	100	99.5
ALG1	99.9	99.5
ABAT	100	100
PMM2	100	100
USP7	99.9	97.4
GRIN2A	100	100
PARN	100	100
NDE1	100	100
XYLT1	98.6	98.0
THUMPD1	100	99.5
COG7	100	100
EARS2	100	100
KIAA0556	100	100
CLN3	100	99.2
PRRT2	100	100
SRCAP	100	100
SETD1A	99.9	99.1
STX1B	100	96.4
ZNF668	100	100
BCKDK	100	100
KAT8	100	100
GPT2	100	98.4
SIAH1	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

HEATR3	100	100
IER3IP1	100	100
DYM	100	100
SMAD4	100	100
DCC	100	100
TCF4	100	100
NARS	100	99.4
NEDD4L	100	98.0
CCBE1	100	100
PIGN	100	98.6
RTTN	100	99.9
ZNF407	100	100
CTDP1	99.9	99.1
POLRMT	100	99.3
NDUFS7	100	98.7
GAMT	100	100
APC2	99.9	97.0
ADAT3	100	99.9
LMNB2	98.7	96.1
DOHH	100	100
FZR1	100	100
ZBTB7A	99.3	98.3
MAP2K2	100	100
SEMA6B	100	99.3
KDM4B	99.9	99.9
C19orf70	100	100
LONP1	100	98.9
RFX2	100	100
TUBB4A	100	99.9
WDR11	100	100
FGFR2	100	100
EBF3	99.9	98.8
NKX6-2	100	99.9
TUBGCP2	96.5	100
CRADD	100	100
SALL1	100	100
MCOLN1	100	100
CEP83	100	89.7
SCYL2	100	99.9
GNPTAB	100	100
IGF1	100	100
PAH	100	100
KIAA1033	100	99.1
POLR3B	100	100
RFX4	100	100
UBE3B	100	100
MMAB	100	100
MVK	100	100
ATP2A2	100	100
CUX2	100	98.7

**Gennaam CreV4 (15X) SSv7 (15X)**

MAPKAPK5	100	100
PTPN11	100	98.2
MED13L	100	99.8
CIT	100	100
ACADS	100	100
SETD1B	97.9	97.4
HPD	100	100
C12orf65	100	99.5
TCTN2	100	100
ATP6V0A2	100	100
DHX37	100	100
PUS1	100	99.9
FBRSL1	88.3	83.3
ZMYM2	100	100
CENPJ	100	100
SLC6A9	100	100
SUCLG1	100	100
TBL1XR1	100	100
POLR1C	100	100
FRRS1L	99.9	86.1
ATP8A2	100	100
RNF220	100	99.8
HPDL	100	100
TOE1	100	100
MMACHC	100	100
POMGNT1	100	100
STIL	100	100
ORC1	100	100
PARS2	100	100
DHCR24	100	100
NFIA	100	97.3
DOCK7	100	99.1
ALG6	100	98.9
ACADM	100	99.3
PIGK	100	100
PRKACB	99.9	91.2
HS2ST1	100	100
DPYD	100	96.1
SLC35A3	100	100
SASS6	100	85.6
DBT	100	99.7
RNPC3	100	96.8
GPSM2	100	100
TAF13	100	100
AMPD2	100	100
SLC6A17	100	100
KCNA2	100	100
KCND3	100	100
AP4B1	100	100
ST3GAL5	100	92.1

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

EIF2AK3	100	98.0
RPIA	100	100
AFF3	98.7	98.0
POU3F3	80.6	73.9
NPHP1	100	96.6
CKAP2L	100	92.9
PAX8	100	100
GLI2	99.9	99.9
ERCC3	100	100
SMPD4	100	100
CCDC115	100	100
RAB3GAP1	100	100
DARS	100	97.2
HNMT	100	100
ZEB2	100	100
MBD5	100	100
KIF5C	100	99.4
MMADHC	100	99.5
NR4A2	100	100
TBR1	100	100
IFIH1	100	100
SCN3A	100	100
SCN2A	100	99.7
SCN1A	100	100
LRP2	100	100
BBS5	100	100
METTL5	100	100
WDR26	100	100
TMEM63A	100	100
PYCR2	100	100
H3F3A	100	100
ADCK3	100	100
GAD1	100	100
NONO	100	99.3
TAF1	100	99.8
OGT	100	100
HDAC8	100	99.9
SLC16A2	100	99.9
RLIM	100	100
KIAA2022	100	100
ATRX	100	98.8
ATP7A	100	100
PGK1	100	100
BRWD3	100	99.5
ZNF711	100	99.8
PCDH19	100	100
TIMM8A	100	100
HNRNPH2	100	100
TCEAL1	100	99.8
PLP1	100	100

Gennaam	CreV4 (15X)	SSv7 (15X)
PRPS1	100	100
ACSL4	100	99.8
PAK3	100	99.8
DCX	100	99.9
ALG13	100	99.7
DCAF17	100	100
DYNC1I2	100	100
SLC25A12	100	100
KIAA1715	96.7	94.2
AGPS	100	95.6
NCKAP1	100	97.0
HIBCH	100	99.1
GLS	100	100
HECW2	100	100
PGAP1	100	96.9
HSPD1	100	100
SATB2	100	99.5
C2orf69	100	99.9
TMEM237	100	100
NDUFS1	100	100
EEF1B2	100	100
FASTKD2	100	100
UNC80	100	100
CPS1	100	100
ATIC	100	100
ZNF142	100	100
BCS1L	100	100
GMPPA	100	100
CUL3	100	100
MFF	100	100
SLC19A3	100	100
TRIP12	100	100
ARMC9	100	100
PIK3CA	100	100
ACTL6A	100	100
DNAJC19	100	100
SOX2	100	99.8
MCCC1	100	100
AP2M1	100	100
ALG3	100	100
CLCN2	100	100
MASP1	100	100
FGF12	100	100
NRROS	100	100
PIGG	100	100
CPLX1	99.9	94.6
IDUA	99.9	97.8
CTBP1	96.5	94.5
FGFR3	100	100
WHSC1	99.9	99.6



**Gennaam**      **CreV4 (15X)** **SSv7 (15X)**

ADD1	100	100
HTT	98.6	99.2
CC2D2A	100	99.8
QDPR	100	99.9
SEPSECS	100	100
RBPJ	100	100
LIAS	100	96.3
UGDH	100	100
SLC30A9	100	99.8
GABRA2	100	100
GABRB1	100	100
GTPBP2	99.9	97.8
SLC35B2	100	98.9
AARS2	100	100
MUT	100	100
RAB23	100	100
KCNQ5	100	99.3
MTO1	98.3	97.6
SLC17A5	100	100
PHIP	99.2	97.0
ELOVL4	100	100
BCKDHB	100	100
PGM3	100	100
SNX14	100	92.3
SYNCRIP	100	100
ZNF292	100	100
SLC35A1	100	100
RARS2	100	100
NDUFAF4	100	100
FBXL4	100	100
PRDM13	100	99.0
GRIK2	100	100
HACE1	100	99.7
RTN4IP1	100	100
PDSS2	100	99.7
SOBP	98.8	98.5
ZBTB24	100	100
FIG4	100	100
WASF1	100	99.8
TRIM32	100	100
CDK5RAP2	100	99.8
STXBP1	100	100
DNM1	100	97.0
COQ4	100	98.9
SPTAN1	100	100
SET	100	100
NUP188	100	100
DOLK	100	100
ASS1	100	100
EXOSC2	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

LAMC3	100	100
NUP214	100	100
POMT1	100	100
MED27	100	100
NTNG2	97.7	99.9
TSC1	100	100
SURF1	98.0	94.8
WDR5	100	100
KCNT1	99.9	99.0
PMPCA	100	100
INPP5E	100	100
AGPAT2	100	100
ABCA2	100	100
MAN1B1	100	100
GRIN1	100	100
EHMT1	99.0	98.8
CACNA1B	99.3	98.3
GLB1	100	100
CTNNB1	100	100
TRAK1	100	100
POMGNT2	100	100
ABHD5	100	100
GSX2	100	100
CDK19	100	99.9
ZMYND11	100	100
SIK1	99.9	100
CSTB	100	100
TRAPPC10	99.9	99.3
ADARB1	93.9	93.9
FTCD	99.8	94.9
LSS	100	99.8
MCM3AP	100	100
PCNT	100	99.9
PEX26	100	100
PRODH	100	98.9
SLC25A1	99.9	94.5
HIRA	100	100
TBX1	91.5	84.3
TANGO2	100	100
PI4KA	99.8	100
SNAP29	100	100
LZTR1	100	100
MAPK1	100	100
SMARCB1	100	100
SPECC1L	100	100
SRD5A3	100	99.8
TMEM165	100	99.8
CEP135	100	99.1
SLC4A4	100	100
ANKRD17	100	99.4

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

FRAS1	100	100
HNRNPD	100	100
COQ2	100	99.6
WDFY3	100	100
PIGY	100	100
GRID2	100	100
TRMT10A	100	100
PPP3CA	100	100
SLC39A8	100	100
MANBA	100	100
TBCK	100	96.0
AIMP1	100	99.2
CYP2U1	100	99.7
HADH	100	100
LARP7	100	97.4
PRSS12	100	100
EXOSC9	99.2	92.2
BBS7	100	99.5
KIAA1109	100	100
BBS12	100	100
SPATA5	100	100
FAT4	100	100
PLK4	100	100
NUS1	99.7	99.8
CEP85L	100	93.1
LAMA2	99.6	100
ARG1	100	100
MED23	100	100
AHI1	100	100
PEX7	100	100
HIVEP2	100	100
PEX3	100	100
GRM1	100	100
TAB2	100	100
RMND1	100	97.7
SYNE1	100	100
ARID1B	99.3	98.6
SERAC1	100	99.7
GTF2H5	100	100
RNASET2	100	99.9
DLL1	100	100
FAM20C	99.8	99.4
PRKAR1B	100	100
INTS1	100	99.5
BRAT1	100	100
WIPI2	100	100
ACTB	100	100
AIMP2	100	100
RAC1	100	94.2
TMEM106B	100	99.7

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

AGMO	100	99.0
WDR37	100	100
PITRM1	100	100
CELF2	100	100
DHTKD1	100	100
CUBN	100	100
PTF1A	99.9	99.8
PDSS1	95.9	95.2
RAB18	100	99.7
WAC	99.9	99.1
HNRNPF	100	100
ERCC6	100	100
OGDHL	100	100
ANK3	100	100
DNAJC12	100	100
KIAA1279	100	100
HK1	100	100
SGPL1	100	100
PSAP	97.9	100
MICU1	100	100
FAM149B1	100	100
CAMK2G	100	100
ADK	100	99.9
KAT6B	100	99.5
KCNMA1	100	99.9
POLR3A	100	100
ZMIZ1	100	96.6
MAT1A	100	100
MINPP1	100	99.8
CDK8	100	98.8
HMGB1	99.9	100
B3GALTL	99.8	98.2
FRY	100	100
NBEA	99.6	98.9
MAB21L1	100	100
SPG20	100	100
EXOSC8	100	98.2
UFM1	100	64.2
FREM2	100	100
PROSER1	100	100
COG6	100	99.9
SLC25A15	100	100
SUCLA2	100	100
RNASEH2B	100	100
ALG11	100	100
PIBF1	100	98.7
CLN5	100	100
FBXL3	100	100
POU4F1	79.9	81.0
ZIC2	89.4	91.6

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

PCCA	100	100
NALCN	100	100
TPP2	100	98.0
ERCC5	100	99.7
LIG4	100	100
CARKD	100	100
CARS2	100	100
NRAS	100	100
PDE6D	100	100
MFSD8	100	100
ISPD	100	100
PTEN	100	100
CHAMP1	100	100
PNPLA6	100	99.9
PET100	100	100
RAB11B	100	100
ZNF699	100	100
SMARCA4	100	100
DOCK6	99.8	99.8
MAN2B1	100	99.9
DHPS	100	100
TNPO2	100	100
RNASEH2A	100	100
MAST1	100	100
NFIX	100	100
TRMT1	100	100
NACC1	100	100
CACNA1A	100	100
CC2D1A	100	100
TECR	100	100
CSDE1	100	100
TSHB	100	100
ATP1A1	100	100
WARS2	100	100
PHGDH	100	100
PEX11B	100	100
TARS2	100	100
PRUNE	100	100
POGZ	100	100
SNX27	100	100
GATAD2B	100	100
HAX1	100	100
ADAR	100	100
KCNN3	100	100
ASH1L	100	100
RIT1	100	100
APOA1BP	100	100
NTRK1	100	100
KCNJ10	100	100
ATP1A2	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

PEX19	100	100
UFC1	100	100
NDUFS2	100	100
PBX1	100	100
TMCO1	100	99.3
PIGC	100	100
DARS2	100	100
TNR	100	100
TOR1AIP1	100	99.8
RBL2	100	100
RPGRIP1L	96.4	96.9
FTO	100	100
IRX5	100	100
GNAO1	100	100
BBS2	100	100
RSPRY1	100	100
COQ9	100	100
GPR56	100	100
KATNB1	100	100
CNOT1	100	100
GOT2	100	99.4
CDH11	100	100
NAE1	100	99.9
CTCF	100	98.1
PRMT7	100	100
VPS4A	100	100
COG8	100	100
AARS	100	100
FUK	100	99.9
TTC5	100	99.9
OSGEP	100	100
PNP	100	100
SUPT16H	100	100
CHD8	100	100
TINF2	100	100
FOXG1	98.0	99.2
PRKD1	100	100
AP4S1	100	100
NUBPL	100	99.9
SRP54	100	97.4
KIAA0391	100	99.5
RALGAPA1	100	92.5
NKX2-1	100	100
TRAPPC6B	100	99.8
FAM179B	100	99.8
MGAT2	100	100
NEMF	100	99.5
SOS2	100	99.0
L2HGDH	100	99.7
BMP4	100	100

**Gennaam** **CreV4 (15X)** **SSv7 (15X)**

KIF11	100	99.9
FRA10AC1	99.4	88.7
ALDH18A1	100	100
ENTPD1	100	100
COX15	100	100
CWF19L1	100	99.9
FAM178A	100	99.9
C10orf2	100	100
SUFU	100	100
TRIM8	100	100
ARL3	100	91.9
CNNM2	100	100
NT5C2	100	99.0
ADD3	100	100
SMC3	100	99.5
SHOC2	100	100
TCF7L2	100	99.2
NHLRC2	100	100
SLC18A2	100	100
PDZD8	100	100
EMX2	100	99.6
SFXN4	100	99.9
TWIST1	99.3	99.5
FAM126A	100	100
KLHL7	100	100
HOXA1	100	100
BBS9	100	99.5
VPS41	100	97.7
RALA	100	91.5
CDK13	100	100
MPLKIP	100	99.2
GLI3	100	100
CAMK2B	100	100
DDC	100	99.5
PSPH	100	99.1
GUSB	100	100
ASL	100	100
KCTD7	100	100
SBDS	100	100
AUTS2	100	100
MDH2	100	99.9
YWHAG	100	100
NAA15	100	100
SMARCA5	100	99.8
MMAA	100	100
MAB21L2	100	100
FBXW7	100	100
GRIA2	100	99.7
MSMO1	100	100
CPE	100	96.1

<b>Gennaam</b>	<b>CreV4 (15X)</b>	<b>SSv7 (15X)</b>
CLCN3	100	100
AGA	100	100
TRAPPC11	100	99.3
UFSP2	100	100
SLC6A19	100	99.0
SLC6A3	100	100
NSUN2	100	98.7
MTRR	100	100
CTNND2	98.1	96.9
TRIO	99.2	99.0
ANKH	100	100
LMBRD2	100	95.3
NIPBL	99.9	98.8
DIS3L2	100	100
HDAC4	100	97.4
KIF1A	100	100
DTYMK	100	100
D2HGDH	100	100
TRNT1	100	91.0
CRBN	100	98.1
SUMF1	100	100
ITPR1	100	100
GRM7	100	100
SETD5	100	100
BRPF1	100	100
ARPC4	100	100
FANCD2	100	100
SLC6A1	100	99.7
ATG7	100	100
TSEN2	100	100
RAF1	100	100
IQSEC1	100	100
CCDC174	100	95.0
BTD	100	100
SATB1	100	100
THRB	100	100
RARB	100	100
NGLY1	100	100
CACNA1E	100	100
GLUL	100	100
TSEN15	100	100
EDEM3	99.9	96.1
KCNT2	100	97.2
ASPM	100	99.4
KIF14	100	97.7
DDX59	100	100
KIF21B	100	99.4
KDM5B	100	100
PPP1R15B	100	100
NFASC	100	100



<b>Gennaam</b>	<b>CreV4 (15X)</b>	<b>SSv7 (15X)</b>
KCNH1	100	100
FLVCR1	100	99.9
CENPF	100	100
EPRS	100	100
RAB3GAP2	100	99.4
FBXO28	100	99.7
DEGS1	100	100