Targeted Sequencing Library Preparation

CleanPlex® Pre-Designed NGS Panels

What is a Pre-Designed NGS Amplicon Panel?

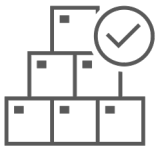
To speed up your custom NGS assay development projects, our team has consulted with experts in various applications, curated relevant gene content for those applications and conducted several rounds of panel design and in-silico optimization. These pre-designed content can serve as a good starting point for your custom NGS panel development. You have the option to add new content or modify the existing content of these panels. If the content already meets your need, you can order the panels now. Pre-Designed NGS Panels are not inventoried or validated while our ready-to-use NGS Panels are all inventoried and validated.

Why Pre-Designed NGS Amplicon Panels?



SPEED

Get your Pre-Designed NGS panel in only 2 weeks if no further customization needed (compared to 3-4 weeks when full customization is needed.)



CUSTOMIZE

You still have the option to add new content or modify the existing content easily by requesting a custom panel design based on the existing pre-designed content.

APPLICATIONS

- ❑ Overall Health
- ❑ Hereditary Cancer
- ❑ Cardiology
- ❑ Neurology
- ❑ Metabolic/Newborn
- ❑ Nephrology
- ❑ Dermatology
- ❑ Ophthalmology
- ❑ Hematology
- ❑ Pediatrics
- ❑ Immunology

What's Included?

Each CleanPlex Pre-Designed NGS Panel will include a CleanPlex Targeted Library Kit and your custom multiplex PCR primers. CleanMag® Magnetic Beads for bead purification, and index primers for sample multiplexing and sequencing on the platform of your choice can be ordered separately. Our expert scientists are here to support you from design to validation for your assay development project. Paragon Genomics can aid you in wet-lab validation and optimization to ensure optimal performance of your assay on your specified sample type and quick transition of the assay into your lab.

Custom versus Pre-Designed Panels

Pre-designed panels provide researchers with a convenient and cost-effective solution, as they eliminate the need for extensive panel design and optimization and reduce the heavy lifting associated with content curation. These panels are well-suited for researchers looking to study common gene sets associated with specific diseases or biological pathways. Additional customization and modification of the panel can be done quickly.

With custom panels, researchers have full control over the genes or genomic regions they want to target. This level of customization allows for precise and personalized sequencing, enabling researchers to focus on specific genes or regions of interest that are relevant to their study. Custom panels are ideal for projects requiring a high degree of flexibility, such as novel gene discovery, variant validation, or investigating specific disease-associated genes.

The choice between the two depends on the specific research goals, budget, desired TAT, and desired level of customization.

CleanPlex Workflow

Streamlined Targeted Sequencing Workflow

CleanPlex panels offer a simple and streamlined workflow. Starting from purified and quantitated DNA, the multiplex PCR-based protocol can be completed in just 3 hours, with 75 minutes of hands-on time, using a three-step workflow with minimal tube-to-tube transfers. Each step consists of a thermal cycling or incubation condition, followed by "with bead" purification using magnetic beads.



CleanPlex Target Enrichment and Library Preparation

3 hours of total assay time, 75 minutes of hands-on time

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

PARAGON GENOMICS

CleanPlex® Overall Health Pre-Designed NGS Panels

Gene-determined Health Panel

ACTA2	*DSC2*	*MLH1*	*OTC*	*SCN5A*	*TMEM43*
ACTC1	*DSG2*	*MSH2*	*PCSK9*	*SDHAF2*	*TNNI3*
APC	*DSP*	*MSH6*	*PKP2*	*SDHB*	*TNNT2*
APOB	*FBN1*	*MUTYH*	*PMS2*	*SDHC*	*TP53*
ATP7B	*GLA*	*MYBPC3*	*PRKAG2*	*SDHD*	*TPM1*
BMPR1A	*KCNH2*	*MYH11*	*PTEN*	*SMAD3*	*TSC1*
BRCA1	*KCNQ1*	*MYH7*	*RB1*	*SMAD4*	*TSC2*
BRCA2	*LDLR*	*MYL2*	*RET*	*STK11*	*VHL*
CACNA1S	*LMNA*	*MYL3*	*RYR1*	*TGFBR1*	*WT1*
COL3A1	*MEN1*	*NF2*	*RYR2*	*TGFBR2*	

Comprehensive Genetic Health Panel

ACTA2	*CAV3*	*FLNC*	*MLH1*	*PRKAG2*	*SMAD4*
ACTC1	*CDC73*	*GDF2*	*MSH2*	*PRKAR1A*	*SMARCA4*
ACTN2	*CDH1*	*GLA*	*MSH3*	*PRKG1*	*SMARCB1*
ACVRL1	*CDK4*	*GPD1L*	*MSH6*	*PROC*	*STK11*
APC	*CDKN2A*	*GREM1*	*MUTYH*	*PROS1*	*TCAP*
APOB	*CHEK2*	*HAMP*	*MYBPC3*	*PTCH1*	*TFR2*
ATM	*COL3A1*	*HCN4*	*MYH11*	*PTEN*	*TGFB2*
ATP7B	*CRYAB*	*HFE*	*MYH7*	*RAD51C*	*TGFB3*
AXIN2	*CSRP3*	*HJV*	*MYL2*	*RAD51D*	*TGFBR1*
BAG3	*DES*	*HOXB13*	*MYL3*	*RB1*	*TGFBR2*
BAP1	*DICER1*	*JUP*	*MYLK*	*RBM20*	*TMEM127*
BARD1	*DMD*	*KCNE1*	*NBN*	*RET*	*TMEM43*
BMPR1A	*DSC2*	*KCNE2*	*NF1*	*RYR1*	*TNNC1*
BMPR2	*DSG2*	*KCNH2*	*NF2*	*RYR2*	*TNNI3*
BRCA1	*DSP*	*KCNJ2*	*NKX2-5*	*SCN5A*	*TNNT2*
BRCA2	*EMD*	*KCNQ1*	*NTHL1*	*SDHA*	*TP53*
BRIP1	*ENG*	*KIT*	*OTC*	*SDHAF2*	*TPM1*
CACNA1C	*EPCAM*	*LAMP2*	*PALB2*	*SDHB*	*TSC1*
CACNA1S	*F2*	*LDLR*	*PCSK9*	*SDHC*	*TSC2*
CACNB2	*F5*	*LDLRAP1*	*PDGFRA*	*SDHD*	*VCL*
CALM1	*F9*	*LMNA*	*PKP2*	*SERPINA1*	*VHL*
CALM2	*FBN1*	*MAX*	*PLN*	*SERPINC1*	*WT1*
CALM3	*FH*	*MEN1*	*PMS2*	*SGCD*	
CASQ2	*FHL1*	*MET*	*POLD1*	*SLC40A1*	
CAV1	*FLCN*	*MITF*	*POLE*	*SMAD3*	

PARAGON GENOMICS

CleanPlex® Hereditary Cancer Pre-Designed NGS Panels

Comprehensive Hereditary Cancer Panel

AIP	*CDKN1B*	*GREM1*	*NBN*	*RAD50*	*SMARCB1*
ALK	*CDKN1C*	*HNF1A*	*NF1*	*RAD51C*	*STK11*
APC	*CDKN2A*	*HOXB13*	*NF2*	*RAD51D*	*SUFU*
ATM	*CEBPA*	*HRAS*	*NTHL1*	*RB1*	*TERC*
AXIN2	*CHEK2*	*KIT*	*PALB2*	*RECQL*	*TERT*
BAP1	*DICER1*	*MAX*	*PDGFRA*	*RECQL4*	*TMEM127*
BARD1	*DIS3L2*	*MEN1*	*PHOX2B*	*RET*	*TP53*
BLM	*EGFR*	*MET*	*PMS1*	*RUNX1*	*TSC1*
BMPR1A	*EPCAM*	*MITF*	*PMS2*	*SDHA*	*TSC2*
BRCA1	*FANCC*	*MLH1*	*POLD1*	*SDHAF2*	*VHL*
BRCA2	*FANCM*	*MRE11A*	*POLE*	*SDHB*	*WRN*
BRIP1	*FH*	*MSH2*	*POT1*	*SDHC*	*WT1*
CDC73	*FLCN*	*MSH3*	*PRKAR1A*	*SDHD*	*XRCC2*
CDH1	*GATA2*	*MSH6*	*PTCH1*	*SMAD4*	
CDK4	*GPC3*	*MUTYH*	*PTEN*	*SMARCA4*	

Hereditary Colorectal Cancer Panel

APC	*EPCAM*	*MSH3*	*POLD1*
AXIN2	*GALNT12*	*MSH6*	*POLE*
BMPR1A	*GREM1*	*MUTYH*	*PTEN*
CDH1	*MLH1*	*NTHL1*	*SMAD4*
CHEK2	*MSH2*	*PMS2*	*STK11*
			TP53

Hereditary Prostate Cancer Panel

ATM	*CHEK2*	*MSH2*	*PMS2*
BRCA1	*EPCAM*	*MSH6*	*RAD51C*
BRCA2	*HOXB13*	*NBN*	*RAD51D*
BRIP1	*MLH1*	*PALB2*	*TP53*

Hereditary Nervous System and Brain Cancer Panel

AIP	*LZTR1*	*NF2*	*PTEN*	*TP53*
ALK	*MEN1*	*PHOX2B*	*RB1*	*TSC1*
APC	*MLH1*	*PMS2*	*SMARCA4*	*TSC2*
DICER1	*MSH2*	*POT1*	*SMARCB1*	*VHL*
EPCAM	*MSH6*	*PRKAR1A*	*SMARCE1*	
HRAS	*NF1*	*PTCH1*	*SUFU*	

Hereditary Pancreatic Cancer Panel

APC	*CDK4*	*MLH1*	*PMS2*	*TSC1*
ATM	*CDKN2A*	*MSH2*	*PRSS1*	*TSC2*
BMPR1A	*EPCAM*	*MSH6*	*SMAD4*	*VHL*
BRCA1	*FANCC*	*NF1*	*STK11*	
BRCA2	*MEN1*	*PALB2*	*TP53*	

Hereditary Sarcoma Panel

APC	*HRAS*	*NF1*	*RECQL4*	*SDHB*
BLM	*KIT*	*PDGFRA*	*SDHA*	*SDHC*
CDKN1C	*MLH1*	*PMS2*	*SDHB*	*SDHD*
DICER1	*MSH2*	*PRKAR1A*	*SDHC*	*SUFU*
EPCAM	*MSH6*	*PTCH1*	*SDHD*	*TP53*
FH	*NBN*	*RB1*	*SUFU*	*WRN*

Hereditary Myelodysplastic Syndrome (MDS)/Leukemia Panel

ANKRD26	*EPCAM*	*MSH2*	*RUNX1*	*TERT*
ATM	*ETV6*	*MSH6*	*SAMD9*	*TP53*
BLM	*GATA2*	*NBN*	*SAMD9L*	
CEBPA	*HRAS*	*NF1*	*SRP72*	
DDX41	*MLH1*	*PMS2*	*TERC*	

Hereditary Renal/Urinary Cancer Panel

BAP1	*FH*	*MSH2*	*SDHB*	*TSC1*
CDC73	*FLCN*	*MSH6*	*SDHC*	*TSC2*
CDKN1C	*GPC3*	*PMS2*	*SDHD*	*VHL*
DICER1	*MET*	*PTEN*	*SMARCA4*	*WT1*
DIS3L2	*MITF*	*REST*	*SMARCB1*	
EPCAM	*MLH1*	*SDHA*	*TP53*	

Hereditary Gastric Cancer Panel

APC	*EPCAM*	*MSH6*	*SDHA*	*SMAD4*
BMPR1A	*KIT*	*NF1*	*SDHB*	*STK11*
CDH1	*MLH1*	*PDGFRA*	*SDHC*	*TP53*
CTNNA1	*MSH2*	*PMS2*	*SDHD*	

Hereditary Melanoma Panel

BAP1	*CDK4*	*MC1R*	*PTCH1*	*TP53*
BRCA1	*CDKN2A*	*MITF*	*PTEN*	
BRCA2	*CHEK2*	*POT1*	*RB1*	

PARAGON GENOMICS

Hereditary Thyroid Cancer Panel

APC	*DICER1*	*PTEN*	*TP53*
CHEK2	*PRKAR1A*	*RET*	

Pediatric Cancer Panel

AIP	*DICER1*	*MAX*	*PRKAR1A*	*SDHC*	*TP53*
ALK	*DIS3L2*	*MEN1*	*PTCH1*	*SDHD*	*TSC1*
APC	*EPCAM*	*MLH1*	*PTCH2*	*SMAD4*	*TSC2*
ATM	*ETV6*	*MSH2*	*PTEN*	*SMARCA4*	*VHL*
AXIN2	*EXT1*	*MSH6*	*RB1*	*SMARCB1*	*WRN*
BAP1	*EXT2*	*NBN*	*RECQL4*	*SMARCE1*	*WT1*
BLM	*FH*	*NF1*	*REST*	*SRP72*	
BMPR1A	*GATA2*	*NF2*	*RET*	*STK11*	
BUB1B	*GPC3*	*PAX5*	*RUNX1*	*SUFU*	
CDC73	*HRAS*	*PHOX2B*	*SDHA*	*TERC*	
CDKN1C	*KIF1B*	*PMS2*	*SDHAF2*	*TERT*	
CEBPA	*LZTR1*	*PRF1*	*SDHB*	*TMEM127*	

Hereditary Breast and Ovarian Cancer Panel

ATM	*BRIP1*	*MLH1*	*MUTYH*	*PMS2*	*RAD51D*
BARD1	*CDH1*	*MRE11*	*NBN*	*PTEN*	*STK11*
BRCA1	*CHEK2*	*MSH2*	*NF1*	*RAD50*	*TP53*
BRCA2	*EPCAM*	*MSH6*	*PALB2*	*RAD51C*	

PARAGON GENOMICS

CleanPlex® Cardiology Pre-Designed NGS Panels

Comprehensive Cardiology Panel

ACTA2	*CSRP3*	*HCN4*	*NKX2-5*	*TGFB3*
ACTC1	*DES*	*JUP*	*PCSK9*	*TGFBR1*
ACTN2	*DMD*	*KCNE1*	*PKP2*	*TGFBR2*
ACVRL1	*DSC2*	*KCNE2*	*PLN*	*TMEM43*
APOB	*DSG2*	*KCNH2*	*PRKAG2*	*TNNC1*
BAG3	*DSP*	*KCNJ2*	*PRKG1*	*TNNI3*
BMPR2	*EMD*	*KCNQ1*	*PROC*	*TNNT2*
CACNA1C	*ENG*	*LAMP2*	*PROS1*	*TPM1*
CACNB2	*F2*	*LDLR*	*RBM20*	*VCL*
CALM1	*F5*	*LDLRAP1*	*RYR2*	
CALM2	*F9*	*LMNA*	*SCN5A*	
CALM3	*FBN1*	*MYBPC3*	*SERPINC1*	
CASQ2	*FHL1*	*MYH11*	*SGCD*	
CAV1	*FLNC*	*MYH7*	*SMAD3*	
CAV3	*GDF2*	*MYL2*	*SMAD4*	
COL3A1	*GLA*	*MYL3*	*TCAP*	
CRYAB	*GPD1L*	*MYLK*	*TGFB2*	

Cardiomyopathy Comprehensive Panel

ABCC9	*CTNNA3*	*GLA*	*MYL3*	*SDHA*	*TXNRD2*
ACADVL	*DES*	*HCN4*	*MYLK2*	*SGCD*	*VCL*
ACTC1	*DMD*	*HFE*	*MYOZ2*	*SHOC2*	
ACTN2	*DNAJC19*	*HRAS*	*MYPN*	*SLC22A5*	
AGL	*DOLK*	*ILK*	*NEBL*	*SOS1*	
AKAP9	*DSC2*	*JPH2*	*NEXN*	*SOS2*	
ALMS1	*DSG2*	*JUP*	*NF1*	*SPRED1*	
ALPK3	*DSP*	*KRAS*	*NKX2-5*	*TAZ*	
ANKRD1	*DTNA*	*LAMA4*	*NRAS*	*TBX20*	
BAG3	*ELAC2*	*LAMP2*	*PDLIM3*	*TCAP*	
BRAF	*EMD*	*LDB3*	*PKP2*	*TGFB3*	
CACNA1C	*EYA4*	*LMNA*	*PLN*	*TMEM43*	
CALR3	*FHL1*	*LRRC10*	*PRDM16*	*TMEM70*	
CASQ2	*FKRP*	*MAP2K1*	*PRKAG2*	*TMPO*	
CAV3	*FKTN*	*MAP2K2*	*PTPN11*	*TNNC1*	
CAVIN4	*FLNC*	*MIB1*	*RAF1*	*TNNI3*	
CBL	*FXN*	*MTO1*	*RBM20*	*TNNT2*	
CHRM2	*GAA*	*MYBPC3*	*RIT1*	*TOR1AIP1*	
CPT2	*GATA4*	*MYH6*	*RRAS*	*TPM1*	
CRYAB	*GATA6*	*MYH7*	*RYR2*	*TTN*	
CSRP3	*GATAD1*	*MYL2*	*SCN5A*	*TTR*	

Hypertrophic Cardiomyopathy (HCM) Panel

ACTC1	*TNNI3*	*MYLK2*	*SOS1*	*JUP*	*TMEM43*
ACTN2	*TNNT2*	*MYPN*	*BRAF*	*LAMA4*	*TMPO*
CAV3	*TPM1*	*NEXN*	*CALR3*	*LMNA*	
CSRP3	*TTR*	*TTN*	*DMD*	*MAP2K1*	
GLA	*VCL*	*ABCC9*	*DSC2*	*MAP2K2*	
LAMP2	*BAG3*	*AGL*	*DSG2*	*NEBL*	
MYBPC3	*DES*	*CACNA1C*	*DSP*	*NRAS*	
MYH7	*FHL1*	*CRYAB*	*DTNA*	*PKP2*	
MYL2	*FLNC*	*KRAS*	*EMD*	*RBM20*	
MYL3	*GAA*	*MYOZ2*	*FKTN*	*RIT1*	
PLN	*LDB3*	*PDLIM3*	*GATA4*	*SCN5A*	
PRKAG2	*ANKRD1*	*PTPN11*	*GATAD1*	*SGCD*	
TCAP	*JPH2*	*RAF1*	*HRAS*	*SHOC2*	
TNNC1	*MYH6*	*RYR2*	*ILK*	*TAZ*	

Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC)

ACTN2	*DSG2*	*LDB3*	*PRKAG2*	*TMEM43*
CDH2	*DSP*	*LMNA*	*RBM20*	*TNNI3*
CTNNA3	*EMD*	*NKX2-5*	*RYR2*	*TNNT2*
DES	*FLNC*	*PKP2*	*SCN5A*	*TTN*
DSC2	*JUP*	*PLN*	*TGFB3*	

Dilated Cardiomyopathy Panel

ABCC9	*DSC2*	*ILK*	*MYPN*	*SGCD*	*VCL*
ACTC1	*DSG2*	*JPH2*	*NEBL*	*SLC22A5*	
ACTN2	*DSP*	*JUP*	*NEXN*	*TAZ*	
ALMS1	*DTNA*	*LAMA4*	*NKX2-5*	*TBX20*	
ALPK3	*EMD*	*LAMP2*	*PDLIM3*	*TCAP*	
ANKRD1	*EYA4*	*LDB3*	*PKP2*	*TMEM43*	
BAG3	*FHL2*	*LMNA*	*PLN*	*TMPO*	
CAV3	*FKRP*	*LRRC10*	*PPCS*	*TNNC1*	
CAVIN4	*FKTN*	*MIB1*	*PRDM16*	*TNNI3*	
CHRM2	*FLNC*	*MYBPC3*	*PRKAG2*	*TNNT2*	
CRYAB	*GATA4*	*MYH6*	*PTPN11*	*TOR1AIP1*	
CSRP3	*GATA6*	*MYH7*	*RAF1*	*TPM1*	
DES	*GATAD1*	*MYL2*	*RBM20*	*TTN*	
DMD	*GLA*	*MYL3*	*RYR2*	*TTR*	
DOLK	*HCN4*	*MYOZ2*	*SCN5A*	*TXNRD2*	

PARAGON GENOMICS

CleanPlex® Cardiology Pre-Designed NGS Panels

Hereditary Hemochromatosis Panel

FTH1	*HAMP*	*HFE2*	*SLC40A1*
FTL	*HFE*	*HJV*	*TFR2*

Left Ventricular Noncompaction (LVNC) Panel

ABCC9	*DSP*	*LMNA*	*PRDM16*	*TPM1*
ACTC1	*DTNA*	*MIB1*	*RAF1*	*TTN*
ACTN2	*EMD*	*MYBPC3*	*RBM20*	*VCL*
BAG3	*FLNC*	*MYH6*	*RYR2*	
CTNNA3	*HCN4*	*MYH7*	*SCN5A*	
DES	*JPH2*	*NEXN*	*TAZ*	
DMD	*JUP*	*PKP2*	*TCAP*	
DSC2	*LAMP2*	*PLEKHM2*	*TNNI3*	
DSG2	*LDB3*	*PLN*	*TNNT2*	

Noonan Syndrome / RASopathies Comprehensive Panel

A2ML1	*LZTR1*	*PPP1CB*	*SOS1*
ACTB	*MAP2K1*	*PTPN11*	*SOS2*
ACTG1	*MAP2K2*	*RAF1*	*SPRED1*
BRAF	*MAP3K8*	*RASA1*	
CBL	*NF1*	*RASA2*	
HRAS	*NF2*	*RIT1*	
KAT6B	*NRAS*	*RRAS*	
KRAS	*NSUN2*	*SHOC2*	

Pan Arrhythmia Panel

ABCC9	*DSC2*	*KCNE3*	*PPA2*	*TMEM43*
ACTN2	*DSG2*	*KCNE5*	*PRKAG2*	*TNNI3*
AKAP9	*DSP*	*KCNH2*	*RANGRF*	*TNNI3K*
ANK2	*EMD*	*KCNJ2*	*RBM20*	*TNNT2*
CACNA1C	*FLNC*	*KCNJ5*	*RYR2*	*TRDN*
CACNA2D1	*GATA6*	*KCNJ8*	*SCN10A*	*TRPM4*
CACNB2	*GJA5*	*KCNQ1*	*SCN1B*	*TTN*
CALM1	*GPD1L*	*LDB3*	*SCN2B*	
CALM2	*HCN4*	*LMNA*	*SCN3B*	
CALM3	*JUP*	*MYH6*	*SCN4B*	
CASQ2	*KCNA5*	*MYL4*	*SCN5A*	
CAV3	*KCND3*	*NKX2-5*	*SNTA1*	
CTNNA3	*KCNE1*	*PKP2*	*TECRL*	
DES	*KCNE2*	*PLN*	*TGFB3*	

Pan Aortopathy and Connective Tissue Disorders Panel

ABCC6	*COL5A2*	*MAT2A*	*SMAD4*
ACTA2	*CRTAP*	*MED12*	*TGFB2*
ADAMTS2	*EFEMP2*	*MFAP5*	*TGFB3*
ALDH18A1	*ELN*	*MYH11*	*TGFBR1*
B3GAT3	*FBLN5*	*MYLK*	*TGFBR2*
BGN	*FBN1*	*NOTCH1*	
CBS	*FBN2*	*PLOD1*	
COL1A1	*FKBP14*	*SKI*	
COL1A2	*FLNA*	*SLC2A10*	
COL3A1	*FOXE3*	*SLC39A13*	
COL5A1	*LOX*	*SMAD3*	

Congenital Heart Disease Panel

ACTC1	*GATA5*	*MYH6*	*RIT1*
ACVR2B	*GATA6*	*NKX2-5*	*SALL4*
BCOR	*GDF1*	*NKX2-6*	*SHOC2*
BMPR2	*GJA1*	*NODAL*	*SMAD6*
BRAF	*GPC3*	*NOTCH1*	*SOS1*
CBL	*HAND1*	*NOTCH2*	*TAB2*
CHD7	*HAND2*	*NR2F2*	*TBX1*
CITED2	*HRAS*	*NRAS*	*TBX20*
CRELD1	*JAG1*	*NSD1*	*TBX5*
DNAH11	*KMT2D*	*PITX2*	*TFAP2B*
ELN	*KRAS*	*PKD1L1*	*TLL1*
FLNA	*LEFTY2*	*PTPN11*	*ZEB2*
FOXH1	*MED13L*	*RAF1*	*ZFPM2*
GATA4	*MMP21*	*RBM10*	*ZIC3*

Heterotaxy and Situs Inversus Panel

ACVR2B	*CCDC40*	*DNAH5*	*INVS*	*SPAG1*
ARMC4	*CFAP53*	*DNAI1*	*LEFTY2*	*ZIC3*
C21ORF59	*DNAAF1*	*DNAI2*	*LRRC6*	*ZMYND10*
CCDC103	*DNAAF2*	*DNAL1*	*MMP21*	
CCDC114	*DNAAF3*	*DYX1C1*	*NODAL*	
CCDC151	*DNAAF5*	*FOXH1*	*PIH1D3*	
CCDC39	*DNAH11*	*GDF1*	*PKD1L1*	

PARAGON GENOMICS

Pulmonary Arterial Hypertension Panel

ACVRL1	*CAV1*	*GDF2*	*SMAD9*
BMPR1B	*EIF2AK4*	*KCNA5*	
BMPR2	*ENG*	*KCNK3*	

Hereditary Hemorrhagic Telangiectasia Panel

ACVRL1	*GDF2*	*SMAD4*
ENG	*RASA1*	

PARAGON GENOMICS

CleanPlex® Neurology Pre-Designed NGS Panels

Parkinson Disease Panel

ATP13A2	*DNAJC6*	*MAPT*	*PRKRA*	*TAF1*	*XPR1*
ATP1A3	*EIF4G1*	*PARK2*	*RAB39B*	*TH*	
ATP6AP2	*FBXO7*	*PARK7*	*SLC20A2*	*UCHL1*	
ATP7B	*GBA*	*PINK1*	*SLC6A3*	*VPS13A*	
C19orf12	*GCH1*	*PLA2G6*	*SNCA*	*VPS13C*	
CHCHD2	*HTRA2*	*POLG*	*SPR*	*VPS35*	
DCTN1	*LRRK2*	*PRKN*	*SYNJ1*	*WDR45*	

Alzheimer's Disease Panel

APOE	*MAPT*	*PSEN2*	*TREM2*
APP	*PRNP*	*SNCA*	*TYROBP*
GRN	*PSEN1*	*SNCB*	

Alzheimer and Dementia Disease Panel

ABCA7	*DCTN1*	*MAPT*	*SNCA*	*TREM2*
APOE	*DNMT1*	*NOTCH3*	*SNCB*	*TUBA4A*
APP	*FUS*	*OPTN*	*SORL1*	*TYROBP*
C9ORF72	*GRN*	*PRNP*	*SQSTM1*	*UBQLN2*
CHCHD10	*HNRNPA1*	*PSEN1*	*TARDBP*	*VCP*
CHMP2B	*HNRNPA2B1*	*PSEN2*	*TBK1*	
CSF1R	*ITM2B*	*RNF216*	*TREM2*	

Amyotrophic Lateral Sclerosis Panel

ALS2	*DCTN1*	*KIF5A*	*SLC52A2*	*SQSTM1*
ANG	*FIG4*	*MATR3*	*SLC52A3*	*TARDBP*
C9ORF72	*FUS*	*OPTN*	*SOD1*	*TBK1*
CHCHD10	*GRN*	*PFN1*	*SPG11*	*UBQLN2*
CHMP2B	*HNRNPA1*	*SETX*	*SPG20*	*VAPB*
				VCP

Dystonia Comprehensive Panel

ADAR	*ATP7B*	*FTL*	*KCTD17*	*PRKN*	*SPR*
ADCY5	*BCAP31*	*GCDH*	*KMT2B*	*PRKRA*	*TH*
ANO3	*CACNA1B*	*GCH1*	*PANK2*	*PRRT2*	*THAP1*
ARSA	*CIZ1*	*GNAL*	*PDGFB*	*SGCE*	*TIMM8A*
ATM	*DCAF17*	*HPCA*	*PLA2G6*	*SLC2A1*	*TOR1A*
ATP1A3	*FA2H*	*KCNMA1*	*PNKD*	*SLC6A3*	*TUBB4A*
					VPS13A

Comprehensive Neuromuscular Disorders Panel

ACTA1	*CHRND*	*DYSF*	*IGHMBP2*	*NEB*	*SGCA*	*TRAPPC11*
AGL	*CHRNE*	*EMD*	*ISPD*	*PABPN1*	*SGCB*	*TRIM32*
AMPD1	*CHRNG*	*FHL1*	*ITGA7*	*PFKM*	*SGCD*	*TRIP4*
ANO5	*CLCN1*	*FKRP*	*KBTBD13*	*PHKA1*	*SGCE*	*TRPV4*
ATP2A1	*CNTN1*	*FKTN*	*KLHL40*	*PLEC*	*SGCG*	*TTN*
B3GALNT 2	*COL12A1*	*FLNC*	*KLHL41*	*PLEKHG5*	*SIL1*	*TWNK*
B4GAT1	*COL6A1*	*DPM1*	*LAMA2*	*PMM2*	*SMCHD1*	*TYMP*
BAG3	*COL6A2*	*DPM2*	*LAMP2*	*PNPLA2*	*SPEG*	*UBA1*
BICD2	*COL6A3*	*DPM3*	*LARGE1*	*POLG*	*STAC3*	*VCP*
BIN1	*COLQ*	*DYNC1H1*	*LDB3*	*POLG2*	*SUCLA2*	*VRK1*
BSCL2	*CRPPA*	*DYSF*	*LIMS2*	*POMGNT 1*	*SYNE1*	
BVES	*CRYAB*	*EMD*	*LMNA*	*POMGNT 2*	*SYNE2*	
CACNA1S	*DAG1*	*FHL1*	*LMOD3*	*POMK*	*TCAP*	
CAPN3	*DES*	*FKRP*	*MATR3*	*POMT1*	*TIA1*	
CAV3	*DMD*	*FKTN*	*MEGF10*	*POMT2*	*TK2*	
CAVIN1	*DNAJB6*	*FLNC*	*MICU1*	*PYGM*	*TMEM43*	
CCDC78	*DNM2*	*GAA*	*MTM1*	*RAPSN*	*TNNI2*	
CFL2	*DOK7*	*GBE1*	*MTMR14*	*RRM2B*	*TNNT1*	
CHAT	*DPM1*	*GLE1*	*MUSK*	*RXYLT1*	*TNPO3*	
CHKB	*DPM2*	*GMPPB*	*MYH2*	*RYR1*	*TOR1AIP1*	
CHRNA1	*DPM3*	*GNE*	*MYH7*	*SCN4A*	*TPM2*	
CHRNB1	*DYNC1H1*	*HNRNPDL*	*MYOT*	*SELENON*	*TPM3*	

Congenital Myasthenic Syndrome Panel

AGRN	*CHRNB1*	*DOK7*	*LRP4*	*RAPSN*
ALG14	*CHRND*	*DPAGT1*	*MUSK*	*SCN4A*
ALG2	*CHRNE*	*GFPT1*	*MYO9A*	*SLC5A7*
CHAT	*CHRNG*	*GMPPB*	*PLEC*	*SNAP25*
CHRNA1	*COLQ*	*LAMB2*	*PREPL*	*STIM1*
				SYT2

PARAGON GENOMICS

CleanPlex® Neurology Pre-Designed NGS Panels

Comprehensive Muscular Dystrophy Panel

ANO5	*DES*	*FKTN*	*PNPLA2*	*SYNE1*
B3GALNT2	*DMD*	*GAA*	*POMGNT1*	*SYNE2*
B4GAT1	*DNAJB6*	*GMPPB*	*POMGNT2*	*TCAP*
CAPN3	*DPM1*	*ISPD*	*POMK*	*TMEM43*
CAV3	*DPM2*	*ITGA7*	*POMT1*	*TNPO3*
CHKB	*DPM3*	*LAMA2*	*POMT2*	*TRAPPC11*
COL6A1	*DYSF*	*LARGE1*	*SGCA*	*TRIM32*
COL6A2	*EMD*	*LMNA*	*SGCB*	*TTN*
COL6A3	*FHL1*	*MYOT*	*SGCD*	
DAG1	*FKRP*	*PLEC*	*SGCG*	

Dystroglycanopathy Panel

B3GALNT2	*DPM2*	*GMPPB*	*POMGNT2*	*RXYLT1*
B4GAT1	*DPM3*	*ISPD*	*POMK*	*TMEM5*
DAG1	*FKRP*	*LARGE1*	*POMT1*	
DPM1	*FKTN*	*POMGNT1*	*POMT2*	

Limb-Girdle Muscular Dystrophy Panel

ANO5	*DYSF*	*HNRNPDL*	*POMK*	*TNPO3*
BVES	*EMD*	*ISPD*	*POMT1*	*TOR1AIP1*
CAPN3	*FHL1*	*LIMS2*	*POMT2*	*TRAPPC11*
CAV3	*FKRP*	*LMNA*	*SGCA*	*TRIM32*
DAG1	*FKTN*	*MYOT*	*SGCB*	*TTN*
DES	*FLNC*	*PLEC*	*SGCD*	*VCP*
DMD	*GAA*	*PNPLA2*	*SGCG*	
DNAJB6	*GMPPB*	*POMGNT1*	*TCAP*	

Congenital Myopathy Panel

ACTA1	*CNTN1*	*KLHL40*	*MYH7*	*STAC3*
BIN1	*COL12A1*	*KLHL41*	*NEB*	*TNNT1*
CCDC78	*COL6A1*	*LMOD3*	*RYR1*	*TPM2*
CCDC78	*COL6A2*	*MEGF10*	*SCN4A*	*TPM3*
CFL2	*COL6A3*	*MTM1*	*SELENON*	*TTN*
CFL2	*DNM2*	*MYF6*	*SEPN1*	
CHKB	*KBTBD13*	*MYH2*	*SPEG*	

Centronuclear Myopathy Panel

BIN1	*DNM2*	*MYF6*	*SPEG*
CCDC78	*MTM1*	*RYR1*	*TTN*

Distal Myopathy Panel

ANO5	*DNAJB6*	*GNE*	*MYOT*	*VCP*
BAG3	*DNM2*	*KLHL9*	*SQSTM1*	
CAV3	*DYSF*	*LDB3*	*TCAP*	
CRYAB	*FHL1*	*MATR3*	*TIA1*	
DES	*FLNC*	*MYH7*	*TTN*	

Nemaline Myopathy Panel

ACTA1	*KBTBD13*	*LMOD3*	*NEB*
BIN1	*KLHL40*	*MTM1*	*TNNT1*
CFL2	*KLHL41*	*MYPN*	*TPM2*
			TPM3

Comprehensive Neuropathy Panel

AARS	*ELP1*	*IGHMBP2*	*NDRG1*	*SBF1*	*TRIM2*
AIFM1	*FGD4*	*INF2*	*NEFL*	*SBF2*	*TRPV4*
ATL1	*FIG4*	*KIF1A*	*NGF*	*SCN11A*	*TTR*
ATP7A	*GAN*	*KIF5A*	*NTRK1*	*SCN9A*	*WNK1*
BICD2	*GARS*	*LITAF*	*PDK3*	*SH3TC2*	*YARS*
BSCL2	*GDAP1*	*LMNA*	*PLEKHG5*	*SLC12A6*	
DCTN1	*GJB1*	*LRSAM1*	*PMP22*	*SLC52A2*	
DNAJB2	*GNB4*	*MED25*	*PRPS1*	*SLC52A3*	
DNM2	*HARS*	*MFN2*	*PRX*	*SLC5A7*	
DNMT1	*HINT1*	*MORC2*	*RAB7A*	*SPTLC1*	
DYNC1H1	*HSPB1*	*MPZ*	*REEP1*	*SPTLC2*	
EGR2	*HSPB8*	*MTMR2*	*RETREG1*	*TFG*	

Charcot-Marie-Tooth Disease Panel

AARS	*DYNC1H1*	*HK1*	*MFN2*	*RAB7A*	*TTR*
AIFM1	*EGR2*	*HSPB1*	*MME*	*REEP1*	*VCP*
ARHGEF10	*ELP1*	*HSPB8*	*MORC2*	*RETREG1*	*WNK1*
ATL1	*FBLN5*	*IGHMBP2*	*MPZ*	*SBF1*	*YARS*
ATP1A1	*FGD4*	*INF2*	*MTMR2*	*SBF2*	
ATP7A	*FIG4*	*KARS*	*NDRG1*	*SH3TC2*	
BSCL2	*GAN*	*KIF1A*	*NEFL*	*SLC12A6*	
C12ORF65	*GARS*	*KIF1B*	*NGF*	*SLC25A46*	
COX6A1	*GDAP1*	*KIF5A*	*NTRK1*	*SPG11*	
CTDP1	*GJB1*	*LITAF*	*PDK3*	*SPTLC1*	
DHTKD1	*GNB4*	*LMNA*	*PLEKHG5*	*SPTLC2*	
DNAJB2	*HADHB*	*LRSAM1*	*PMP22*	*TFG*	
DNM2	*HARS*	*MARS*	*PRPS1*	*TRIM2*	
DNMT1	*HINT1*	*MED25*	*PRX*	*TRPV4*	

PARAGON GENOMICS

CleanPlex® Neurology Pre-Designed NGS Panels

Hereditary Sensory and Autonomic Neuropathy Panel

ATL1	*DST*	*NTRK1*	*SCN11A*	*WNK1*
ATL3	*ELP1*	*PRDM12*	*SCN9A*	
CCT5	*KIF1A*	*RAB7A*	*SPTLC1*	
DNMT1	*NGF*	*RETREG1*	*SPTLC2*	

Hereditary Motor Neuropathy Panel

ATP7A	*DNAJB2*	*GARS*	*HSPB8*	*SETX*
BICD2	*DYNC1H1*	*HINT1*	*IGHMBP2*	*SIGMAR1*
BSCL2	*FBXO38*	*HSPB1*	*PLEKHG5*	*SLC5A7*
DCTN1	*GAN*	*HSPB3*	*REEP1*	*TRPV4*

Hereditary Spastic Paraplegia Comprehensive Panel

ABCD1	*ATP13A2*	*DDHD1*	*IBA57*	*PNPLA6*	*SPG7*
ALDH18A1	*ATP2B4*	*DDHD2*	*KDM5C*	*REEP1*	*TECPR2*
ALS2	*B4GALNT1*	*ENTPD1*	*KIAA0196*	*REEP2*	*TFG*
AMPD2	*BICD2*	*ERLIN1*	*KIDINS220*	*RTN2*	*USP8*
AP4B1	*BSCL2*	*ERLIN2*	*KIF1A*	*SACS*	*VAMP1*
AP4E1	*C12orf65*	*EXOSC3*	*KIF1C*	*SLC16A2*	*VPS37A*
AP4M1	*C19ORF12*	*FA2H*	*KIF5A*	*SLC33A1*	*WASHC5*
AP4S1	*CAPN1*	*FARS2*	*L1CAM*	*SPART*	*WDR48*
AP5Z1	*CCT5*	*GBA2*	*MAG*	*SPAST*	*ZFYVE26*
ARL6IP1	*CYP2U1*	*GJC2*	*NIPA1*	*SPG11*	*ZFYVE27*
ARSI	*CYP7B1*	*HACE1*	*NT5C2*	*SPG20*	
ATL1	*DARS*	*HSPD1*	*PLP1*	*SPG21*	

Holoprosencephaly Panel

CDON	*FOXH1*	*PTCH1*	*TGIF1*
FGF8	*GLI2*	*SHH*	*ZIC2*
FGFR1	*NODAL*	*SIX3*	

Neurodegeneration with Brain Iron Accumulation Panel

AP4M1	*CP*	*FUCA1*	*REPS1*
ATP13A2	*CRAT*	*GTPBP2*	*SCP2*
ATP13A2	*DCAF17*	*NALCN*	*SQSTM1*
C19orf12	*FA2H*	*PANK2*	*WDR45*
COASY	*FTL*	*PLA2G6*	

Rett and Angelman Syndromes Panel

ATRX	*GABBR2*	*MEF2C*	*SLC9A6*	*WDR45*
CDKL5	*IQSEC2*	*NRXN1*	*STXBP1*	*ZEB2*
CNTNAP2	*MBD5*	*SATB2*	*TCF4*	
FOXG1	*MECP2*	*SCN8A*	*UBE3A*	

Comprehensive Epilepsy Panel

ABAT	*CLCN4*	*GABRB2*	*MAGI2*	*PNKP*	*SNAP25*
ABCD1	*CLN3*	*GABRB3*	*MBD5*	*PNPO*	*SPATA5*
ACTL6B	*CLN5*	*GABRG2*	*MDH2*	*POLG*	*SPTAN1*
ACY1	*CLN6*	*GALC*	*MECP2*	*POMT1*	*ST3GAL3*
ADAM22	*CLN8*	*GAMT*	*MED12*	*POMT2*	*ST3GAL5*
ADAR	*CLTC*	*GATM*	*MED17*	*PPP3CA*	*STRADA*
ADGRG1	*CNPY3*	*GCDH*	*MEF2C*	*PPT1*	*STX1B*
ADGRV1	*CNTN2*	*GFAP*	*MFSD8*	*PQBP1*	*STXBP1*
ADSL	*CNTNAP2*	*GLB1*	*MLC1*	*PRICKLE1*	*SUMF1*
AGA	*COL18A1*	*GLDC*	*MOCS1*	*PRIMA1*	*SUOX*
AIFM1	*COL4A1*	*GLRA1*	*MTFMT*	*PRODH*	*SYN1*
ALDH5A1	*COX15*	*GLRB*	*MTHFR*	*PRRT2*	*SYNGAP1*
ALDH7A1	*CPA6*	*GNAO1*	*MTOR*	*PSAP*	*SYNJ1*
ALG13	*CPT2*	*GNB1*	*NACC1*	*PURA*	*SZT2*
AMACR	*CRH*	*GNE*	*NDST1*	*QARS*	*TBC1D24*
AMT	*CSTB*	*GOSR2*	*NDUFS4*	*QDPR*	*TBL1XR1*
ANKRD11	*CTNNB1*	*GPAA1*	*NDUFS7*	*RAB39B*	*TCF4*
AP3B2	*CTSD*	*GPHN*	*NDUFS8*	*RELN*	*TNK2*
ARFGEF2	*CTSF*	*GRIA3*	*NDUFV1*	*RNASEH2A*	*TPK1*
ARG1	*CUL4B*	*GRIN1*	*NECAP1*	*RNASEH2B*	*TPP1*
ARHGEF9	*CYFIP2*	*GRIN2A*	*NEDD4L*	*RNASEH2C*	*TREX1*
ARID1B	*DCX*	*GRIN2B*	*NEU1*	*ROGDI*	*TSC1*
ARSA	*DDX3X*	*GRN*	*NEXMIF*	*RORB*	*TSC2*
ARX	*DENND5A*	*HCN1*	*NF1*	*SAMHD1*	*TUBA1A*
ASAH1	*DEPDC5*	*HCN2*	*NGLY1*	*SATB2*	*TUBA8*
ASNS	*DHCR7*	*HECW2*	*NHLRC1*	*SCARB2*	*TUBB2A*
ASPA	*DHFR*	*HNRNPU*	*NOTCH3*	*SCN10A*	*TUBB2B*
ATP13A2	*DNAJC5*	*HSD17B10*	*NPRL3*	*SCN1A*	*UBA5*
ATP1A2	*DNM1*	*IER3IP1*	*NR2F1*	*SCN1B*	*UBE2A*
ATP1A3	*DOCK7*	*IQSEC2*	*NRXN1*	*SCN2A*	*UBE3A*
ATP6AP2	*DPYD*	*IRF2BPL*	*NSD1*	*SCN3A*	*UNC80*
ATRX	*DYRK1A*	*ITPA*	*NUS1*	*SCN8A*	*VPS13A*
BCKDK	*EEF1A2*	*KANSL1*	*OFD1*	*SCN9A*	*WASF1*
BRAT1	*EFHC1*	*KCNA1*	*OPHN1*	*SERPINI1*	*WDR45*
BTD	*EHMT1*	*KCNA2*	*PACS1*	*SETBP1*	*WWOX*
C12orf57	*EIF2B1*	*KCNB1*	*PAFAH1B1*	*SIK1*	*ZEB2*
CACNA1A	*EIF2B2*	*KCNC1*	*PAK3*	*SLC12A5*	
CACNA1B	*EIF2B3*	*KCNH1*	*PCDH19*	*SLC13A5*	
CACNA1D	*EIF2B4*	*KCNH2*	*PGK1*	*SLC17A5*	
CACNA1H	*EIF2B5*	*KCNJ10*	*PHF6*	*SLC19A3*	
CACNA2D2	*EPM2A*	*KCNMA1*	*PIGA*	*SLC25A12*	
CACNB4	*ETFDH*	*KCNQ2*	*PIGG*	*SLC25A15*	
CARS2	*FARS2*	*KCNQ3*	*PIGN*	*SLC25A22*	
CASK	*FGF12*	*KCNT1*	*PIGO*	*SLC2A1*	
CASR	*FH*	*KCTD7*	*PIGP*	*SLC35A2*	
CDKL5	*FKTN*	*KDM5C*	*PIGT*	*SLC46A1*	
CERS1	*FLNA*	*KDM6A*	*PIGV*	*SLC6A1*	
CHD2	*FOLR1*	*KIAA2022*	*PIGW*	*SLC6A8*	
CHRNA2	*FOXG1*	*L2HGDH*	*PLAA*	*SLC9A6*	
CHRNA4	*FRRS1L*	*LGI1*	*PLCB1*	*SMARCA2*	
CHRNB2	*GABBR2*	*LIAS*	*PLP1*	*SMC1A*	
CLCN2	*GABRA1*	*LRPPRC*	*PLPBP*	*SMS*	

PARAGON GENOMICS

Early Infantile Epileptic Encephalopathy Panel

ADSL	*CNTNAP2*	*GNAO1*	*MECP2*	*SCN1A*	*SPTAN1*
ALDH7A1	*CTSD*	*GRIN1*	*MEF2C*	*SCN1B*	*ST3GAL3*
ALG13	*DEPDC5*	*GRIN2A*	*MFSD8*	*SCN2A*	*STX1B*
ARHGEF9	*DNM1*	*GRIN2B*	*NRXN1*	*SCN8A*	*STXBP1*
ARX	*DOCK7*	*HCN1*	*PCDH19*	*SCN9A*	*SYNGAP1*
BRAT1	*EEF1A2*	*HNRNPU*	*PIGA*	*SLC12A5*	*SZT2*
CACNA1A	*FARS2*	*KCNA2*	*PIGN*	*SLC13A5*	*TBC1D24*
CASK	*FOLR1*	*KCNB1*	*PIGO*	*SLC19A3*	*TPP1*
CDKL5	*FOXG1*	*KCNJ10*	*PLCB1*	*SLC25A12*	*TSC1*
CHD2	*FRRS1L*	*KCNMA1*	*PNKP*	*SLC25A22*	*TSC2*
CLCN4	*GABBR2*	*KCNQ2*	*PNPO*	*SLC2A1*	*WDR45*
CLN3	*GABRA1*	*KCNQ3*	*POLG*	*SLC35A2*	*WWOX*
CLN5	*GABRB3*	*KCNT1*	*PPT1*	*SLC6A1*	
CLN6	*GABRG2*	*KCTD7*	*PRRT2*	*SLC9A6*	
CLN8	*GAMT*	*MBD5*	*PURA*	*SMC1A*	

Autism Spectrum Disorders Panel

ADNP	*CNTN6*	*GRIP1*	*NLGN4X*	*SCN2A*	*UBE3A*
ADSL	*CNTNAP2*	*HDAC8*	*NRXN1*	*SHANK2*	*UPF3B*
ALDH5A1	*CREBBP*	*HOXA1*	*NSD1*	*SHANK3*	*VPS13B*
ANKRD11	*CSNK2A1*	*HPRT1*	*PCDH19*	*SLC6A1*	*ZEB2*
ARID1B	*CTNND2*	*KATNAL2*	*POGZ*	*SLC6A8*	
ARX	*DHCR7*	*KMT5B*	*PQBP1*	*SLC9A6*	
AUTS2	*DYRK1A*	*MAGEL2*	*PTCHD1*	*SMC1A*	
BCL11A	*EHMT1*	*MBD5*	*PTEN*	*SMC3*	
BRAF	*FMR1*	*MECP2*	*PTPN11*	*SPAST*	
CACNA1C	*FOLR1*	*MED12*	*RAB39B*	*SYNGAP1*	
CC2D1A	*FOXG1*	*MEF2C*	*RAD21*	*TBR1*	
CDKL5	*FOXP1*	*MID1*	*RAI1*	*TCF20*	
CHD2	*GABRB3*	*NHS*	*RELN*	*TCF4*	
CHD7	*GAMT*	*NIPBL*	*RPL10*	*TSC1*	
CHD8	*GRIN2B*	*NLGN3*	*SCN1A*	*TSC2*	

PARAGON GENOMICS

CleanPlex® Metabolic Newborn Pre-Designed NGS Panels

Porphyria Disorders

ALAD	*CPOX*	*HMBS*	*SLC19A2*
ALAS2	*FECH*	*LAD*	*UROD*
C15orf41	*HFE*	*PPOX*	*UROS*

Homocystinuria Panel

CBS	*MTHFR*	*MTRR*
MMADHC	*MTR*	

Hyperphenylalaninemia Panel

DNAJC12	*PAH*	*PTS*	*SPR*
GCH1	*PCBD1*	*QDPR*	

Glycogen Storage Disease Panel

AGL	*GBE1*	*PFKM*	*PHKG2*
ALDOA	*GYG1*	*PGAM2*	*PRKAG2*
ENO3	*GYS1*	*PGK1*	*PYGL*
EPM2A	*GYS2*	*PGM1*	*PYGM*
FBP1	*LAMP2*	*PHKA1*	*RBCK1*
G6PC	*LDHA*	*PHKA2*	*SLC2A2*
GAA	*NHLRC1*	*PHKB*	*SLC37A4*

Congenital Disorders of Glycosylation Panel

ALG1	*B4GALT1*	*DDOST*	*GFPT1*	*PIGA*	*SLC35A2*
ALG11	*B4GALT7*	*DHDDS*	*GMPPA*	*PIGL*	*SLC35A3*
ALG12	*CCDC115*	*DOLK*	*GMPPB*	*PIGM*	*SLC35C1*
ALG13	*CHST14*	*DPAGT1*	*GNE*	*PIGO*	*SLC35D1*
ALG14	*CHST3*	*DPM1*	*LFNG*	*PIGV*	*SLC39A8*
ALG2	*CHST6*	*DPM2*	*MAGT1*	*PMM2*	*SRD5A3*
ALG3	*CHSY1*	*DPM3*	*MAN1B1*	*POMGNT1*	*SSR4*
ALG6	*COG1*	*EXT1*	*MGAT2*	*POMT1*	*ST3GAL3*
ALG8	*COG2*	*EXT2*	*MOGS*	*POMT2*	*ST3GAL5*
ALG9	*COG4*	*FKRP*	*MPDU1*	*RFT1*	*STT3A*
ATP6AP1	*COG5*	*FKTN*	*MPI*	*RPN2*	*STT3B*
ATP6V0A2	*COG6*	*FUT8*	*NGLY1*	*SEC23A*	*TMEM165*
B3GAT3	*COG7*	*G6PC3*	*PGM1*	*SEC23B*	*TMEM199*
B3GLCT	*COG8*	*GALNT3*	*PGM3*	*SLC35A1*	*TRIP11*
					TUSC3

Disorders of Fatty Acid Oxidation Panel

ACADM	*CPT1A*	*ETFDH*	*HMGCL*	*SLC25A20*
ACADS	*CPT2*	*HADH*	*HMGCS2*	
ACADSB	*ETFA*	*HADHA*	*MLYCD*	
ACADVL	*ETFB*	*HADHB*	*SLC22A5*	

Comprehensive Lysosomal Storage Disorders Panel

ADAMTSL2	*CTSA*	*GNE*	*KCTD7*	*NPC1*	*PPT1*
AGA	*CTSD*	*GNPTAB*	*LAMP2*	*NPC2*	*PSAP*
AP3B1	*CTSK*	*GNPTG*	*LIPA*	*PEX1*	*RAB27A*
ARSA	*DNAJC5*	*GNS*	*LYST*	*PEX10*	*SGSH*
ARSB	*FUCA1*	*GPC3*	*MAN2B1*	*PEX12*	*SLC17A5*
ASAH1	*GAA*	*GUSB*	*MANBA*	*PEX13*	*SMPD1*
ATP13A2	*GALC*	*HEXA*	*MCOLN1*	*PEX16*	*SUMF1*
CLN3	*GALNS*	*HEXB*	*MFSD8*	*PEX26*	*TPP1*
CLN5	*GBA*	*HGSNAT*	*MYO5A*	*PEX3*	
CLN6	*GLA*	*HYAL1*	*NAGA*	*PEX5*	
CLN8	*GLB1*	*IDS*	*NAGLU*	*PEX6*	
CTNS	*GM2A*	*IDUA*	*NEU1*	*PHYH*	

Comprehensive Mucopolysaccharidoses (MPS) Panel

ARSB	*GNPTG*	*HYAL1*	*NAGLU*
GALNS	*GNS*	*IDS*	*SGSH*
GLB1	*GUSB*	*IDUA*	
GNPTAB	*HGSNAT*	*MCOLN1*	

Comprehensive Neuronal Ceroid Lipofuscinoses Panel

ATP13A2	*CLN8*	*GRN*	*TPP1*
CLN3	*CTSD*	*KCTD7*	
CLN5	*CTSF*	*MFSD8*	
CLN6	*DNAJC5*	*PPT1*	

Neurotransmitter Disorders Panel

ABAT	*DDC*	*GLRB*	*PNPO*	*SPR*
ALDH5A1	*GAD1*	*GPHN*	*PTS*	*TH*
ALDH7A1	*GCH1*	*MAOA*	*QDPR*	
ARHGEF9	*GLDC*	*PCBD1*	*SLC6A3*	
DBH	*GLRA1*	*PHGDH*	*SLC6A5*	

PARAGON GENOMICS

CleanPlex® Metabolic Newborn Pre-Designed NGS Panels

Organic Acidemia/Aciduria Panel

ABAT	*DRD4*	*HTR1A*	*SLC46A1*
ALDH5A1	*DRD5*	*HTR2A*	*SLC6A1*
ALDH7A1	*FOLR1*	*MAOA*	*SLC6A2*
AMT	*GABRA1*	*MTHFD1*	*SLC6A3*
ARHGEF9	*GABRB3*	*MTHFR*	*SLC6A4*
ASNS	*GABRD*	*PC*	*SLC6A5*
ATP1A3	*GABRG2*	*PCBD1*	*SLC6A9*
CACNA1A	*GAD1*	*PHGDH*	*SNAP25*
CACNA1B	*GCH1*	*PITX3*	*SNAP29*
CBS	*GCSH*	*PNPO*	*SNCA*
CLTC	*GLDC*	*PSAT1*	*SPR*
COMT	*GLRA1*	*PSPH*	*STXBP1*
DBH	*GLRB*	*PTS*	*SYN1*
DDC	*GLUL*	*QDPR*	*SYN2*
DHFR	*GNAQ*	*SLC1A3*	*SYP*
DRD3	*GPHN*	*SLC25A22*	*TH*
			TPH2

Peroxisomal Disorders Panel

ABCD1	*CAT*	*PEX1*	*PEX16*	*PEX6*
ABCD3	*DNM1L*	*PEX10*	*PEX19*	*PEX7*
ACOX1	*DYM*	*PEX11B*	*PEX2*	*PHYH*
AGPS	*EBP*	*PEX12*	*PEX26*	*SCP2*
AGXT	*GNPAT*	*PEX13*	*PEX3*	*SUGCT*
AMACR	*HSD17B4*	*PEX14*	*PEX5*	*TRIM37*

Purine and Pyrimidine Metabolism Disorders Panel

ADA	*MOCOS*	*ATIC*	*PRPS1*	*UMPS*
ADSL	*MOCS1*	*DHODH*	*REN*	*UPB1*
AMPD1	*PNP*	*DPYD*	*SUOX*	
GPHN	*XDH*	*DPYS*	*TPMT*	
HPRT1	*APRT*	*NT5C3A*	*UMOD*	

Pyruvate Dehydrogenase Deficiency Panel

DLAT	*LIAS*	*PDHA1*	*PDHX*
DLD	*MPC1*	*PDHB*	*PDP1*

Hyperammonemia and Urea Cycle Disorder Panel

ACADM	*CPS1*	*HADHB*	*MMADHC*	*SLC25A13*
ACADS	*CPT1A*	*HCFC1*	*MUT*	*SLC25A15*
ACADVL	*CPT2*	*HLCS*	*NAGS*	*SLC25A20*
ALDH18A1	*DBT*	*HMGCL*	*OAT*	*SLC7A7*
ARG1	*DLD*	*HMGCS2*	*OTC*	*SUCLA2*
ASL	*ETFA*	*IVD*	*PC*	*SUCLG1*
ASS1	*ETFB*	*MCCC1*	*PCCA*	*TMEM70*
BCKDHA	*ETFDH*	*MCCC2*	*PCCB*	*UMPS*
BCKDHB	*GLUD1*	*MMAA*	*PDHA1*	
BTD	*GLUL*	*MMAB*	*SERAC1*	
CA5A	*HADHA*	*MMACHC*	*SLC22A5*	

Hypophosphatemic Rickets Panel

ALPL	*DMP1*	*FGF23*	*SLC34A1*
CLCN5	*ENPP1*	*FGFR1*	*SLC34A3*
CYP27B1	*FAH*	*KL*	*VDR*
CYP2R1	*FAM20C*	*PHEX*	

PARAGON GENOMICS

CleanPlex® Nephrology Pre-Designed NGS Panels

Ciliopathies Panel

ACVR2B	*CEP104*	*GLI3*	*NPHP3*	*WDR34*
AHI1	*CEP120*	*GLIS2*	*NPHP4*	*WDR35*
ALMS1	*CEP164*	*HYLS1*	*OFD1*	*WDR60*
ANKS6	*CEP290*	*IFT122*	*PDE6D*	*XPNPEP3*
ARL13B	*CEP41*	*IFT140*	*PKD2*	*ZIC3*
ARL6	*CEP83*	*IFT172*	*PKHD1*	*ZMYND10*
ARMC4	*CFAP298*	*IFT27*	*RPGR*	*ZNF423*
B9D1	*CFTR*	*IFT43*	*RPGRIP1L*	
B9D2	*CPLANE1*	*IFT80*	*RSPH1*	
BBIP1	*CSPP1*	*INPP5E*	*RSPH4A*	
BBS1	*DCDC2*	*INVS*	*RSPH9*	
BBS10	*DNAAF1*	*IQCB1*	*SDCCAG8*	
BBS12	*DNAAF2*	*KIAA0586*	*SPAG1*	
BBS2	*DNAAF3*	*KIF14*	*TCTN1*	
BBS4	*DNAAF4*	*KIF7*	*TCTN2*	
BBS5	*DNAAF5*	*LEFTY2*	*TCTN3*	
BBS7	*DNAH11*	*LRRC6*	*TMEM138*	
BBS9	*DNAH5*	*LZTFL1*	*TMEM216*	
CC2D2A	*DNAH8*	*MKKS*	*TMEM231*	
CCDC103	*DNAI1*	*MKS1*	*TMEM237*	
CCDC114	*DNAI2*	*NEK1*	*TMEM67*	
CCDC151	*DNAL1*	*NEK8*	*TRIM32*	
CCDC39	*DRC1*	*NKX2-5*	*TTC21B*	
CCDC40	*DYNC2H1*	*NME8*	*TTC8*	
CCDC65	*EVC*	*NODAL*	*WDPCP*	
CCNO	*EVC2*	*NPHP1*	*WDR19*	

Primary Ciliary Dyskinesia Panel

ARMC4	*DNAAF2*	*DNAJB13*	*RPGR*
CCDC103	*DNAAF3*	*DNAL1*	*RSPH1*
CCDC114	*DNAAF4*	*DRC1*	*RSPH3*
CCDC151	*DNAAF5*	*GAS8*	*RSPH4A*
CCDC39	*DNAH1*	*INVS*	*RSPH9*
CCDC40	*DNAH11*	*LRRC6*	*SPAG1*
CCDC65	*DNAH5*	*MCIDAS*	*ZMYND10*
CCNO	*DNAH8*	*NME8*	
CFAP298	*DNAI1*	*OFD1*	
DNAAF1	*DNAI2*	*PIH1D3*	

Bardet-Biedl Syndrome Panel

ARL6	*BBS2*	*C8orf37*	*MKKS*	*TTC8*
BBIP1	*BBS4*	*CEP290*	*MKS1*	*WDPCP*
BBS1	*BBS5*	*IFT172*	*SDCCAG8*	
BBS10	*BBS7*	*IFT27*	*TMEM67*	
BBS12	*BBS9*	*LZTFL1*	*TRIM32*	

Joubert and Meckel-Gruber Syndromes Panel

AHI1	*CEP290*	*KIF14*	*RPGRIP1L*	*TMEM231*
ARL13B	*CEP41*	*KIF7*	*TCTN1*	*TMEM237*
B9D1	*CPLANE1*	*MKS1*	*TCTN2*	*TMEM67*
B9D2	*CSPP1*	*NPHP1*	*TCTN3*	*TTC21B*
CC2D2A	*IFT172*	*NPHP3*	*TMEM107*	*ZNF423*
CEP104	*INPP5E*	*OFD1*	*TMEM138*	
CEP120	*KIAA0586*	*PDE6D*	*TMEM216*	

Nephronophthisis Panel

AHI1	*DCDC2*	*NEK8*	*SDCCAG8*	*TTC21B*
ANKS6	*FAN1*	*NPHP1*	*TCTN1*	*WDR19*
CC2D2A	*GLIS2*	*NPHP3*	*TMEM138*	*XPNPEP3*
CEP164	*IFT172*	*NPHP4*	*TMEM216*	*ZNF423*
CEP290	*INVS*	*OFD1*	*TMEM237*	
CEP41	*IQCB1*	*PKHD1*	*TMEM67*	
CEP83	*MAPKBP1*	*RPGRIP1L*	*TRAF3IP1*	

Senior-Loken Syndrome Panel

INVS	*NPHP4*	*IQCB1*	*SCLT1*
IQCB1	*SDCCAG8*	*NPHP1*	*SDCCAG8*
NPHP1	*CEP290*	*NPHP3*	*TRAF3IP1*
NPHP3	*INVS*	*NPHP4*	*WDR19*

Nephrolithiasis Panel

ADCY10	*CLCN5*	*HNF4A*	*SLC22A12*	*SLC9A3R1*
AGXT	*CLDN16*	*HOGA1*	*SLC26A1*	*VDR*
ALPL	*CLDN19*	*HPRT1*	*SLC2A9*	*XDH*
APRT	*CYP24A1*	*KCNJ1*	*SLC34A1*	
ATP6V0A4	*FAM20A*	*MOCOS*	*SLC34A3*	
ATP6V1B1	*GNA11*	*MOCS1*	*SLC3A1*	
CA2	*GPHN*	*OCRL*	*SLC4A1*	
CASR	*GRHPR*	*SLC12A1*	*SLC7A9*	

PARAGON GENOMICS

CleanPlex® Dermatology Pre-Designed NGS Panels

Lynch Syndrome Panel

APC	*MLH1*	*MSH6*	*PMS2*
EPCAM	*MSH2*	*MUTYH*	

Cardio-Facio-Cutaneous Syndrome Panel

BRAF	*MAP2K1*	*PTPN11*	*SHOC2*
HRAS	*MAP2K2*	*RAF1*	*SOS1*
KRAS	*NRAS*	*RIT1*	

Ectodermal Dysplasia Panel

EDA	*EDARADD*	*LTBP3*	*PAX9*
EDAR	*LRP6*	*MSX1*	*WNT10A*

PARAGON GENOMICS

CleanPlex® Ophthalmology Pre-Designed NGS Panels

Microphthalmia/Anophthalmia Disorders Panel

ABCB6	*FOXE3*	*NAA10*	*RAX*
ALDH1A3	*FOXL2*	*NDP*	*RBP4*
BCOR	*FRAS1*	*OCRL*	*SHH*
BMP4	*FREM1*	*OTX2*	*SIX3*
BMP7	*FREM2*	*PAX2*	*SIX6*
CHD7	*GDF6*	*PAX6*	*SMOC1*
COL4A1	*GJA1*	*PITX2*	*SOX2*
COX7B	*GRIP1*	*PQBP1*	*STRA6*
CRYBA4	*HCCS*	*PRSS56*	*TBC1D20*
CYP1B1	*HESX1*	*PXDN*	*TENM3*
ERCC2	*HMX1*	*RAB18*	*TFAP2A*
ERCC5	*MAB21L2*	*RAB3GAP1*	*VPS13B*
ERCC6	*MFRP*	*RAB3GAP2*	*VSX2*
FOXC1	*MITF*	*RARB*	*YAP1*
			ZIC2

Congenital Cataracts Panel

ADAMTSL4	*CRYBA4*	*FYCO1*	*MYH9*	*SIPA1L3*
AGK	*CRYBB1*	*FZD4*	*NDP*	*SIX6*
ALDH18A1	*CRYBB2*	*GALK1*	*NF2*	*SLC16A12*
BCOR	*CRYBB3*	*GCNT2*	*NHS*	*SLC33A1*
BEST1	*CRYGB*	*GFER*	*OCRL*	*TBC1D20*
BFSP1	*CRYGC*	*GJA1*	*OPA3*	*TDRD7*
BFSP2	*CRYGD*	*GJA3*	*P3H2*	*TFAP2A*
CHMP4B	*CRYGS*	*GJA8*	*PAX6*	*TMEM70*
COL11A1	*CTDP1*	*HSF4*	*PITX2*	*UNC45B*
COL18A1	*CYP27A1*	*JAM3*	*PITX3*	*VIM*
COL2A1	*EPHA2*	*LEMD2*	*PXDN*	*VSX2*
COL4A1	*EYA1*	*LIM2*	*RAB18*	*WFS1*
CRYAA	*FAM126A*	*LSS*	*RAB3GAP1*	*WRN*
CRYAB	*FOXC1*	*MAF*	*RAB3GAP2*	
CRYBA1	*FOXE3*	*MIP*	*RECQL4*	
CRYBA2	*FTL*	*MIR184*	*SIL1*	

Leber Congenital Amaurosis Panel

AIPL1	*DTHD1*	*LCA5*	*RD3*
ALMS1	*GDF6*	*LRAT*	*RDH12*
CABP4	*GUCY2D*	*MERTK*	*RDH5*
CEP290	*IMPDH1*	*MYO7A*	*RPE65*
CNGA3	*INPP5E*	*NMNAT1*	*RPGRIP1*
CRB1	*IQCB1*	*OTX2*	*SNRNP200*
CRX	*KCNJ13*	*PRPH2*	*SPATA7*
			TULP1

PARAGON GENOMICS

CleanPlex® Hematology Pre-Designed NGS Panels

Bone Marrow Failure Syndromes Panel

ACD	*ELANE*	*GFI1*	*RAB27A*	*RPS7*	*VPS45*
AK2	*EPCAM*	*HAX1*	*RAC2*	*RTEL1*	*WAS*
ANKRD26	*ERCC4*	*IKZF1*	*RAD51C*	*RUNX1*	*WRAP53*
AP3B1	*ETV6*	*LAMTOR2*	*RBM8A*	*SAMD9*	*XRCC2*
ATM	*FANCA*	*LYST*	*RMRP*	*SAMD9L*	
BLM	*FANCB*	*MLH1*	*RPL11*	*SBDS*	
BRCA1	*FANCC*	*MPL*	*RPL15*	*SLC37A4*	
BRCA2	*FANCD2*	*MSH2*	*RPL26*	*SLX4*	
BRIP1	*FANCE*	*MSH6*	*RPL35A*	*SRP72*	
CBL	*FANCF*	*NBN*	*RPL5*	*TAZ*	
CEBPA	*FANCG*	*NF1*	*RPS10*	*TERC*	
CSF3R	*FANCI*	*NHP2*	*RPS17*	*TERT*	
CTC1	*FANCL*	*NOP10*	*RPS19*	*TINF2*	
CXCR4	*FANCM*	*PALB2*	*RPS24*	*TP53*	
DDX41	*G6PC3*	*PAX5*	*RPS26*	*UBE2T*	
DKC1	*GATA1*	*PMS2*	*RPS28*	*USB1*	
DNAJC21	*GATA2*	*PTPN11*	*RPS29*	*VPS13B*	

Diamond-Blackfan Anemia Panel

GATA1	*RPL27*	*RPS17*	*RPS28*
RPL11	*RPL31*	*RPS19*	*RPS29*
RPL15	*RPL35A*	*RPS24*	*RPS7*
RPL19	*RPL5*	*RPS26*	*TSR2*
RPL26	*RPS10*	*RPS27*	

Dyskeratosis Congenita Panel

ACD	*NHP2*	*RTEL1*	*TINF2*
CTC1	*NOP10*	*TERC*	*USB1*
DKC1	*PARN*	*TERT*	*WRAP53*

Fanconi Anemia Panel

BRCA2	*FANCB*	*FANCF*	*FANCM*	*SLX4*
BRIP1	*FANCC*	*FANCG*	*MAD2L2*	*UBE2T*
ERCC4	*FANCD2*	*FANCI*	*PALB2*	*XRCC2*
FANCA	*FANCE*	*FANCL*	*RAD51C*	

Hereditary Hemochromatosis Panel

BMP2	*FTL*	*HFE*	*SLC40A1*
FTH1	*HAMP*	*HJV*	*TFR2*

PARAGON GENOMICS

CleanPlex® Pediatrics Pre-Designed NGS Panels

Cornelia de Lange Syndrome (CdLS) Panel

AFF4	*HDAC8*	*NIPBL*	*SMC1A*
ANKRD11	*KMT2A*	*RAD21*	*SMC3*
			TAF6

Disorders of Sex Development Panel

AMH	*CYP11B1*	*GNRHR*	*NEK1*	*TACR3*
AMHR2	*CYP17A1*	*HESX1*	*NR0B1*	*TOE1*
ANOS1	*CYP19A1*	*HSD17B3*	*NR5A1*	*TSPYL1*
AR	*DHCR7*	*HSD3B2*	*POR*	*WDR11*
ARX	*DHH*	*IL17RD*	*PROK2*	*WT1*
ATRX	*DYNC2H1*	*IRF6*	*PROKR2*	*ZFPM2*
BCOR	*FEZF1*	*KISS1*	*RSPO1*	
CDKN1C	*FGF8*	*KISS1R*	*SOX10*	
CEP41	*FGFR1*	*LHB*	*SOX9*	
CHD7	*FIG4*	*LHCGR*	*SRD5A2*	
CREBBP	*FRAS1*	*MAMLD1*	*SRY*	
CYB5A	*GATA4*	*MAP3K1*	*STAR*	
CYP11A1	*GNRH1*	*MKS1*	*TAC3*	

Macrocephaly and Overgrowth Syndrome Panel

AKT1	*EZH2*	*MTOR*	*RNF125*
AKT2	*GFAP*	*NFIA*	*RNF135*
AKT3	*GLI3*	*NFIX*	*SETD2*
ASPA	*GPC3*	*NPR2*	*SYN1*
ASXL2	*GPSM2*	*NSD1*	*TBC1D7*
BRWD3	*GRIA3*	*OFD1*	*TMEM94*
CCND2	*HEPACAM*	*PDGFRB*	*TSC1*
CDKN1C	*HERC1*	*PHF6*	*TSC2*
CHD8	*HUWE1*	*PIGA*	*UPF3B*
CUL4B	*KIF7*	*PIK3CA*	*ZBTB20*
DHCR24	*KPTN*	*PIK3R2*	
DIS3L2	*L1CAM*	*PPP2R5D*	
DNMT3A	*MED12*	*PTCH1*	
EED	*MLC1*	*PTEN*	
EIF2B5	*MPDZ*	*RAB39B*	

Craniosynostosis Panel

ALPL	*FGFR1*	*IL11RA*	*SEC24D*	*TWIST1*
ALX4	*FGFR2*	*MASP1*	*SKI*	*WDR19*
BMP4	*FGFR3*	*MEGF8*	*SPECC1L*	*WDR35*
CDC45	*FREM1*	*MSX2*	*TCF12*	*ZIC1*
CYP26B1	*GLI3*	*P4HB*	*TCOF1*	
EFNB1	*IFT122*	*POR*	*TGFBR1*	
ERF	*IFT140*	*RAB23*	*TGFBR2*	
ESCO2	*IFT43*	*RECQL4*	*TMCO1*	

Skeletal Ciliopathies Panel

C21ORF2	*EVC*	*IFT140*	*KIAA0753*	*WDR35*
C2CD3	*EVC2*	*IFT172*	*NEK1*	*WDR60*
CEP120	*FGFR1*	*IFT43*	*TCTEX1D2*	
COMP	*FGFR2*	*IFT52*	*TCTN3*	
CSPP1	*FGFR3*	*IFT80*	*TTC21B*	
DYNC2H1	*ICK*	*IFT81*	*WDR19*	
DYNC2LI1	*IFT122*	*KIAA0586*	*WDR34*	

Chronic Pancreatitis Panel

CASR	*CPA1*	*PRSS1*
CFTR	*CTRC*	*SPINK1*

PARAGON GENOMICS

CleanPlex® Immunology Pre-Designed NGS Panels

Primary Immunodeficiency Panel

ACD	CD27	DOCK2	INO80	NFAT5	RFX5	TBX1
ACP5	CD3D	DOCK8	IRAK1	NFKB1	RFXANK	TCF3
ACTB	CD3E	ELANE	IRAK4	NFKB2	RFXAP	TCIRG1
ADA	CD3G	EPG5	IRF2BP2	NFKBIA	RHOH	TCN2
ADA2	CD40	ERCC6L2	IRF3	NHEJ1	RMRP	TERC
ADAM17	CD40LG	EXTL3	IRF7	NHP2	RNASEH2A	TERT
ADAR	CD46	FAAP24	IRF8	NLRC4	RNASEH2B	TFRC
AICDA	CD55	FADD	ISG15	NLRP1	RNASEH2C	THBD
AIRE	CD59	FAS	ITCH	NLRP12	RNF168	TICAM1
AK2	CD70	FASLG	ITGB2	NLRP3	RNF31	TINF2
AP1S3	CD79A	FAT4	ITK	NOD2	RNU4ATAC	TIRAP
AP3B1	CD79B	FCN3	JAGN1	NOP10	RORC	TLR3
AP3D1	CD81	FERMT3	JAK1	NRAS	RPSA	TMC6
APOL1	CD8A	FOXN1	JAK3	NSMCE3	RTEL1	TMC8
ARPC1B	CDCA7	FOXP3	KDM6A	OFD1	SAMD9	TMEM173
ATM	CEBPE	FPR1	KMT2D	ORAI1	SAMD9L	TNFAIP3
ATP6AP1	CFB	G6PC3	KRAS	OSTM1	SAMHD1	TNFRSF11A
B2M	CFD	G6PD	LAMTOR2	OTULIN	SBDS	TNFRSF13B
BACH2	CFH	GATA2	LAT	PARN	SEMA3E	TNFRSF13C
BCL10	CFI	GFI1	LCK	PEPD	SERPING1	TNFRSF1A
BCL11B	CFP	GINS1	LIG1	PGM3	SH2D1A	TNFRSF4
BLM	CFTR	HAX1	LIG4	PIGA	SH3BP2	TNFSF11
BLNK	CHD7	HELLS	LPIN2	PIK3CD	SLC29A3	TNFSF12
BLOC1S6	CIITA	HYOU1	LRBA	PIK3R1	SLC35C1	TPP1
BTK	CLCN7	ICOS	LYST	PLCG2	SLC37A4	TPP2
C1QA	CLPB	IFIH1	MAGT1	PMM2	SLC46A1	TRAF3
C1QB	COLEC11	IFNAR2	MALT1	PMS2	SLC7A7	TRAF3IP2
C1QC	COPA	IFNGR1	MAP3K14	PNP	SMARCAL1	TREX1
C1R	CORO1A	IFNGR2	MASP1	POLA1	SMARCD2	TRNT1
C1S	CR2	IGHM	MASP2	POLE	SNX10	TTC37
C2	CSF2RA	IGLL1	MCM4	POLE2	SP110	TTC7A
C3	CSF2RB	IKBKB	MEFV	PRF1	SPINK5	TYK2
C5	CSF3R	IKZF1	MKL1	PRKCD	SRP54	UNC119
C6	CTC1	IL10	MOGS	PRKDC	SRP72	UNC13D
C7	CTLA4	IL10RA	MS4A1	PSENEN	STAT1	UNC93B1
C8A	CTPS1	IL10RB	MSH6	PSMB8	STAT2	UNG
C8B	CTSC	IL12B	MSN	PSTPIP1	STAT3	USB1
C8G	CXCR4	IL12RB1	MTHFD1	PTEN	STAT5B	USP18
C9	CYBA	IL17F	MVK	PTPRC	STIM1	VPS13B
CARD11	CYBB	IL17RA	MYD88	RAB27A	STK4	VPS45
CARD14	DCLRE1B	IL17RC	MYO5A	RAC2	STN1	WAS
CARD9	DCLRE1C	IL1RN	MYSM1	RAG1	STX11	WDR1
CARMIL2	DDX58	IL21	NBAS	RAG2	STXBP2	WIPF1
CASP10	DGKE	IL21R	NBN	RANBP2	TAP1	WRAP53
CASP8	DKC1	IL2RA	NCF1	RASGRP1	TAP2	XIAP
CCBE1	DNAJC21	IL2RG	NCF2	RBCK1	TAPBP	ZAP70
CD19	DNASE2	IL36RN	NCF4	RECQL4	TAZ	ZBTB24
CD247	DNMT3B	IL7R	NCSTN	RELB	TBK1	

Agammaglobulinemia Panel

BLNK	CD79B	LRRC8A	TCF3
BTK	IGHM	PIK3R1	
CD79A	IGLL1	SH2D1A	

Common Variable Immunodeficiency (CVID) Panel

CD19	ICOS	LRBA	PIK3R1	TNFRSF13B
CD27	IKZF1	MS4A1	PLCG2	TNFRSF13C
CD81	IL21	NFKB1	PRKCD	TNFSF12
CR2	IL21R	NFKB2	RAC2	TTC37
CTLA4	IRF2BP2	PIK3CD	STAT3	VAV1

Hyper-IgE Syndrome Panel

SPINK5	TYK2	PGM3	STAT3
STAT3	DOCK8	SPINK5	TYK2

Hyper-IgM Syndrome Panel

AICDA	CD40	NBN	SH2D1A
ATM	CD40LG	NFKBIA	UNG
BTK	MRE11	PIK3CD	

Autoinflammatory Syndrome Panel

ACP5	RNASEH2A	CTLA4	ITGB2	SH3BP2
ADAR	RNASEH2B	CYBA	LIG4	SLC37A4
CARD14	RNASEH2C	CYBB	LRBA	STAT1
ELANE	SAMHD1	DCLRE1C	NCF2	STAT3
IFIH1	SLC29A3	DDX58	NCF4	STIM1
IL1RN	TMEM173	DKC1	NFAT5	STXBP2
IL36RN	TNFRSF1A	DOCK8	NLRP1	TNFAIP3
LPIN2	TREX1	FOXP3	OTULIN	TTC7A
MEFV	TRNT1	G6PC3	PIK3CD	WAS
MVK	ADA	ICOS	PIK3R1	XIAP
NLRC4	ADA2	IL10	PRG4	ZAP70
NLRP12	ADAM17	IL10RA	PSENEN	
NLRP3	AICDA	IL10RB	RAG1	
NOD2	BTK	IL21	RAG2	
PLCG2	CD3G	IL2RA	RBCK1	
PSMB8	CD40LG	IL2RG	RTEL1	
PSTPIP1	COPA	ISG15	SH2D1A	

PARAGON GENOMICS

CleanPlex® Immunology Pre-Designed NGS Panels

Early Onset Inflammatory Bowel Disease Panel

ADA	*FOXP3*	*ITGB2*	*PTEN*	*TTC7A*
ADAM17	*G6PC3*	*LIG4*	*RAG1*	*WAS*
AICDA	*HPS1*	*LRBA*	*RAG2*	*XIAP*
BTK	*HPS4*	*MEFV*	*RET*	*ZAP70*
CD3G	*HPS6*	*MVK*	*RTEL1*	
CD40LG	*ICOS*	*NCF2*	*SH2D1A*	
CTLA4	*IL10*	*NCF4*	*SLC37A4*	
CYBA	*IL10RA*	*NFAT5*	*STAT1*	
CYBB	*IL10RB*	*NLRC4*	*STAT3*	
DCLRE1C	*IL21*	*PIK3CD*	*STIM1*	
DKC1	*IL2RA*	*PIK3R1*	*STXBP2*	
DOCK8	*IL2RG*	*PLCG2*	*TTC37*	

Periodic Fever Syndromes Panel

ADA2	*LPIN2*	*NLRP12*	*PSTPIP1*
CARD14	*MEFV*	*NLRP3*	*TNFAIP3*
ELANE	*MVK*	*NOD2*	*TNFRSF1A*
IL36RN	*NLRC4*	*PSMB8*	*TRNT1*

Severe Combined Immunodeficiency (SCID) Panel

ADA	*IFNGR1*	*PGM3*	*STAT5B*
AK2	*IKBKB*	*PIK3CD*	*STIM1*
ATM	*IL12RB1*	*PMS2*	*STK4*
BCL11B	*IL2RA*	*PNP*	*TAP1*
BLM	*IL2RG*	*POLE*	*TAP2*
CARD11	*IL7R*	*PRKDC*	*TBX1*
CD247	*IRF8*	*PTPRC*	*TYK2*
CD27	*ITGB2*	*RAC2*	*WAS*
CD3D	*ITK*	*RAG1*	*ZAP70*
CD3E	*JAK3*	*RAG2*	
CD3G	*LAT*	*RFX5*	
CD40	*LCK*	*RFXANK*	
CD40LG	*LIG4*	*RFXAP*	
CD8A	*LRBA*	*RMRP*	
CIITA	*MAGT1*	*RTEL1*	
CORO1A	*MALT1*	*SH2D1A*	
DCLRE1C	*MAP3K14*	*SMARCAL1*	
DNMT3B	*MSN*	*SP110*	
DOCK8	*NHEJ1*	*SPINK5*	
EPG5	*ORAI1*	*STAT1*	
FOXN1	*PARN*	*STAT3*	

Autoimmune Lymphoproliferative Disorders (ALPS) Panel

CASP10	*FASLG*	*NRAS*	*TNFRSF6*
CASP8	*ITK*	*PIK3CD*	*XIAP*
CTLA4	*KRAS*	*PRKCD*	
FADD	*LRBA*	*SH2D1A*	
FAS	*MAGT1*	*STAT3*	

Hereditary Hemophagocytic Lymphohistiocytosis (HLH) Panel

ADA	*FAS*	*MAGT1*	*PRF1*	*TNFRSF1A*
AP3B1	*FASLG*	*MEFV*	*RAB27A*	*UNC13D*
BLOC1S6	*GATA2*	*MVK*	*RECQL4*	*WAS*
BTK	*IL2RA*	*MYO5A*	*SH2D1A*	*XIAP*
CD27	*IL2RG*	*NLRC4*	*SLC7A7*	
CD70	*ITK*	*NLRP3*	*STX11*	
FADD	*LYST*	*PNP*	*STXBP2*	

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SKUs and Ordering Information

Each CleanPlex Pre-designed Panel contains panel-specific CleanPlex Multiplex PCR Primers and a CleanPlex Targeted Library Kit. CleanPlex Indexed PCR Primers and CleanMag® Magnetic Beads are ordered separately to complete the workflow from input DNA to sequencing-ready NGS libraries. For additional product configurations visit www.paragongenomics.com/store/

SKU	Product Name	Rxn Size
916119	CleanPlex Familial Hypercholesterolemia Panel	96
930001	CleanPlex Gene-determined Health Panel	384
930006	CleanPlex Comprehensive Genetic Health Panel	1152
930011	CleanPlex for MGI Comprehensive Hereditary Cancer Panel	1152
930012	CleanPlex for MGI Comprehensive Hereditary Cancer Panel	384
930013	CleanPlex Comprehensive Hereditary Cancer Panel	384
930014	CleanPlex for MGI Comprehensive Hereditary Cancer Panel	96
930015	CleanPlex Comprehensive Hereditary Cancer Panel	96
930016	CleanPlex Hereditary Breast and Ovarian Cancer Panel	384
930021	CleanPlex Hereditary Colorectal Cancer Panel	384
930026	CleanPlex Hereditary Prostate Cancer Panel	384
930031	CleanPlex Hereditary Nervous System and Brain Cancer Panel	384
930036	CleanPlex Hereditary Pancreatic Cancer Panel	384
930041	CleanPlex Hereditary Sarcoma Panel	384
930046	CleanPlex Hereditary Myelodysplastic Syndrome (MDS) /Leukemia Panel	384
930051	CleanPlex Hereditary Renal / Urinary Cancer Panel	384
930056	CleanPlex Hereditary Gastric Cancer Panel	384
930061	CleanPlex Hereditary Melanoma Panel	384
930066	CleanPlex Hereditary Thyroid Cancer Panel	384
930071	CleanPlex Pediatric Cancer Panel	384
930076	CleanPlex Comprehensive Cardiology Panel	384
930081	CleanPlex Cardiomyopathy Comprehensive Panel	1152
930086	CleanPlex Hypertrophic Cardiomyopathy (HCM) Panel	384
930091	CleanPlex Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) Panel	384
930096	CleanPlex Dilated Cardiomyopathy Panel	384
930101	CleanPlex Hereditary Hemochromatosis Panel	384
930106	CleanPlex Left Ventricular Noncompaction (LVNC) Panel	384
930111	CleanPlex Noonan Syndrome / RASopathies Comprehensive Panel	384
930116	CleanPlex Pan Arrhythmia Panel	384
930121	CleanPlex Pan Aortopathy and Connective Tissue Disorders Panel	384
930126	CleanPlex Congenital Heart Disease Panel	384
930131	CleanPlex Heterotaxy and Situs Inversus Panel	384
930136	CleanPlex Pulmonary Arterial Hypertension Panel	384
930141	CleanPlex Hereditary Hemorrhagic Telangiectasia Panel	384
930146	CleanPlex Parkinson Disease Panel	384
930151	CleanPlex Alzheimer's Disease Panel	384
930156	CleanPlex Alzheimer and Dementia Disease Panel	384
930161	CleanPlex Amyotrophic Lateral Sclerosis Panel	384
930166	CleanPlex Dystonia Comprehensive Panel	384
930171	CleanPlex Comprehensive Neuromuscular Disorders Panel	1152
930176	CleanPlex Congenital Myasthenic Syndrome Panel	384
930181	CleanPlex Comprehensive Muscular Dystrophy Panel	384
930186	CleanPlex Dystroglycanopathy Panel	384
930191	CleanPlex Limb-Girdle Muscular Dystrophy Panel	384
930196	CleanPlex Congenital Myopathy Panel	384
930201	CleanPlex Centronuclear Myopathy Panel	384
930206	CleanPlex Distal Myopathy Panel	384
930211	CleanPlex Nemaline Myopathy Panel	384
930216	CleanPlex Comprehensive Neuropathy Panel	384
930221	CleanPlex Charcot-Marie-Tooth Disease Panel	384
930226	CleanPlex Hereditary Sensory and Autonomic Neuropathy Panel	384
930231	CleanPlex Hereditary Motor Neuropathy Panel	384
930236	CleanPlex Hereditary Spastic Paraplegia Comprehensive Panel	384
930241	CleanPlex Comprehensive Epilepsy Panel	1152
930246	CleanPlex Early Infantile Epileptic Encephalopathy Panel	1152
930251	CleanPlex Holoprosencephaly Panel	384
930256	CleanPlex Neurodegeneration with Brain Iron Accumulation Panel	384
930261	CleanPlex Rett and Angelman Syndromes Panel	384
930266	CleanPlex Autism Spectrum Disorders Panel	384
930271	CleanPlex Porphyria Disorders	384
930276	CleanPlex Homocystinuria Panel	384
930281	CleanPlex Hyperphenylalaninemia Panel	384
930286	CleanPlex Glycogen Storage Disease Panel	384
930291	CleanPlex Congenital Disorders of Glycosylation Panel	1152
930296	CleanPlex Disorders of Fatty Acid Oxidation Panel	384
930301	CleanPlex Comprehensive Lysosomal Storage Disorders Panel	384
930306	CleanPlex Comprehensive Mucopolysaccharidoses (MPS) Panel	384
930311	CleanPlex Comprehensive Neuronal Ceroid Lipofuscinoses Panel	384
930316	CleanPlex Neurotransmitter Disorders Panel	384
930321	CleanPlex Organic Acidemia/Aciduria Panel	384
930326	CleanPlex Peroxisomal Disorders Panel	384
930331	CleanPlex Purine and Pyrimidine Metabolism Disorders Panel	384
930336	CleanPlex Pyruvate Dehydrogenase Deficiency Panel	384
930341	CleanPlex Hyperammonemia and Urea Cycle Disorder Panel	384
930346	CleanPlex Hypophosphatemic Rickets Panel	384
930351	CleanPlex Ciliopathies Panel	1152
930356	CleanPlex Primary Ciliary Dyskinesia Panel	384
930361	CleanPlex Bardet-Biedl Syndrome Panel	384
930366	CleanPlex Joubert and Meckel-Gruber Syndromes Panel	384
930371	CleanPlex Nephronophthisis Panel	384
930376	CleanPlex Senior-Loken Syndrome Panel	384
930381	CleanPlex Nephrolithiasis Panel	384
930386	CleanPlex Lynch Syndrome Panel	384

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SKU	Product Name	Rxn Size
930391	CleanPlex Cardio-Facio-Cutaneous Syndrome Panel	384
930396	CleanPlex Ectodermal Dysplasia Panel	384
930401	CleanPlex Microphthalmia/Anophthalmia Disorders Panel	384
930406	CleanPlex Leber Congenital Amaurosis Panel	384
930411	CleanPlex Congenital Cataracts Panel	384
930416	CleanPlex Bone Marrow Failure Syndromes Panel	1152
930421	CleanPlex Diamond-Blackfan Anemia Panel	384
930426	CleanPlex Dyskeratosis Congenita Panel	384
930431	CleanPlex Fanconi Anemia Panel	384
930436	CleanPlex Hereditary Hemochromatosis Panel	384
930441	CleanPlex Cornelia de Lange Syndrome (CdLS) Panel	384
930446	CleanPlex Disorders of Sex Development Panel	384
930451	CleanPlex Macrocephaly and Overgrowth Syndrome Panel	384
930456	CleanPlex Craniosynostosis Panel	384
930461	CleanPlex Skeletal Ciliopathies Panel	384
930466	CleanPlex Chronic Pancreatitis Panel	384
930471	CleanPlex Primary Immunodeficiency Panel	1152
930476	CleanPlex Agammaglobulinemia Panel	384
930481	CleanPlex Common Variable Immunodeficiency (CVID) Panel	384
930486	CleanPlex Hyper-IgE Syndrome Panel	384
930491	CleanPlex Hyper-IgM Syndrome Panel	384
930496	CleanPlex Autoinflammatory Syndrome Panel	384
930501	CleanPlex Early Onset Inflammatory Bowel Disease Panel	384
930506	CleanPlex Periodic Fever Syndromes Panel	384
930511	CleanPlex Severe Combined Immunodeficiency (SCID) Panel	384
930516	CleanPlex Autoimmune Lymphoproliferative Disorders (ALPS) Panel	384
930521	CleanPlex Hereditary Hemophagocytic Lymphohistiocytosis (HLH) Panel	384

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