

QIAseq Targeted DNA Panels

Human Inherited Disease

Cat. Nos. 333512 DHS-301IZ-12 and 333515 DHS-301IZ-96

For ultrasensitive targeted next-generation sequencing (NGS) of DNA

The QIAseq Targeted DNA Human Inherited Disease Panel permits the sequencing of the whole coding regions of 238 genes implicated in genetic disorders, covering 838,627 bases with 11,579 primers. The targeted genes have been found mutated in 164 of the most deleterious and most prevalent (at least 5 in one million) recessively (autosomal or X-linked) inherited disorders. The classes of inherited diseases represented by this panel include cardiac, cutaneous, deafness, developmental, endocrine, hematologic, immunodeficiency, metabolic, neurological, neuromuscular, ocular, renal, respiratory (specifically, cystic fibrosis), and skeletal. Within this panel's coverage are 145 genes known to cause heritable forms of cancer in at least 50% of affected individuals, as well as other genes commonly mutated in cancers. Represented cancers include bone cancers, hereditary breast-ovarian cancers, colorectal cancers, endocrine cancers, gastrointestinal tract cancers, head & neck cancers, hematopoietic cancers, kidney cancers, liver cancers, nervous system cancers, skin cancers, and other cancers. Mutated genes were collected using a variety of resources such as OMIM® (Online Mendelian Inheritance in Man), Clinvar, dbSNP, and the Familial Cancer Database. The whole coding coverage insures that both known and novel variants may be detected including those possibly causing compound heterozygosity, in which each of the two inherited copies of the same gene contains different mutations that together are associated with disease. Using digital DNA sequencing, genetic disease-causing SNP/indels can be detected with this primer pool.

For further details, consult the *QIAseq Targeted DNA Panels Handbook*.

Shipping and storage

QIAseq Targeted DNA Panels (except Ligation Solution and QIAseq Beads) are shipped on dry ice and should be stored at –30 to –15°C in a constant-temperature freezer upon arrival. The QIAseq Beads and Ligation Solution are shipped on cold packs and should be stored at 2–8°C except that the Ligation Solution should be removed immediately upon receipt and stored at –30 to –15°C in a constant-temperature freezer. The QIAseq Index kits are shipped on dry ice and should be stored at –30°C to –15°C upon arrival. When stored correctly, the QIAseq Index kits are good until the expiration date printed on the kit label.

Note: Open the package and store the products appropriately immediately upon receipt.



Panel Contents

QIAseq Targeted DNA Panel Catalog Number	333512	333515
Number of samples	12	96
One pool of region-specific primers	75 μ l	600 μ l
Fragmentation Buffer, 10x	40 μ l	300 μ l
Fragmentation Enzyme Mix	75 μ l	600 μ l
FERA Solution	15 μ l	110 μ l
FG Solution	170 μ l	170 μ l
Ligation Buffer, 5x	160 μ l	1250 μ l
DNA Ligase	75 μ l	600 μ l
Ligation Solution	125 μ l	970 μ l
Nuclease-free Water	1.5 ml	10 ml
TEPCR Buffer, 5x	60 μ l	500 μ l
UPCR Buffer, 5x	60 μ l	500 μ l
HotStarTaq® DNA Polymerase	30 μ l	240 μ l
One bottle containing QIAseq Beads	10 ml	55 ml

Gene Table

Gene Symbol	Gene Symbol	Gene Symbol	Gene Symbol	Gene Symbol	Gene Symbol
ABCB11	ABCC8	ABCD1	ACADM	ACADS	ACADVL
ADA	ADAMTS13	ADAMTS2	AGA	AGL	AGPS
AHII	AIP	AKT1	ALDH3A2	ALDOB	ALK
ALS2	AMPD1	ANTXR1	ANTXR2	APC	ARSA
ARX	ASAH1	ASCC1	ASL	ASPA	ASS1
ATM	ATP7A	ATP7B	ATP8B1	ATR	AXIN2
BAP1	BARD1	BCKDHA	BCKDHB	BLM	BMPRIA
BRCA1	BRCA2	BRIP1	BTB	BTB	BUB1B
CBS	CD96	CDC73	CDH1	CDH23	CDK4
CDKN1B	CDKN2A	CEBPA	Cep290	CFTR	CHEK1
CHEK2	CHM	CLN3	CLN5	CLN6	CLN8
COL1A2	COL4A3	COL4A4	COL7A1	CRTAP	CTNS
CTSK	CYLD	CYP11A1	CYP21A2	CYP27A1	CYP27B1
DBT	DCX	DDIT3	DHCR7	DICER1	DIS3L2
DKC1	DLD	DMD	DNAJB2	EDA	EDN3
EDNRB	EGR2	EHRB1	ELP1	EPCAM	EPHB2
ERCC2	ERCC3	ERCC4	ERCC5	ERCC6	ESCO2
EXT1	EXT2	F11	F5	FAH	FANCA
FANCB	FANCC	FANCD2	FANCE	FANCF	FANCG
FANCI	FANCL	FANCM	FGD4	FH	FKRP
FKTN	FLCN	FMR1	G6PC	GAA	GALNT12
GALT	GATA2	GBA	GCDH	GJB2	GLA
GLB1	GLI3	GLMN	GNPTAB	GPC3	HADHA
HADHB	HBB	HESX1	HEXA	HEXB	HFE
HGSNAT	HRAS	IDUA	IGHMBP2	IL2RG	INVS
KCNQ1	KDR	KIF1B	KIT	KLHDC8B	LICAM
LAMA2	LHX3	LIG4	LRPPRC	LYST	MAPK10
MAX	MC1R	MCCC2	MCOLN1	MECP2	MEFV
MEN1	MET	MFSD8	MITF	MKS1	MLH1
MLH3	MMAB	MMUT	MPZ	MRE11	MSH2
MSH6	MSMB	MSR1	MTAP	MTHFR	MTM1
MUTYH	MYO7A	NBN	NDUFA13	NEB	NF1
NF2	NPC1	NPC2	NPHP1	NPHP4	NTRK1
NUP62	OTC	P3H1	PAH	PALB2	PALLD
PAX6	PCDH15	PDE11A	PDGFRA	PDHA1	PEX1
PEX7	PHOX2B	PIK3CA	PKHD1	PLEKHG5	PLOD1
PLP1	PMP22	PMS2	POLD1	POLE	POLH
POMGNT1	POMT1	POU1F1	POU6F2	PPT1	PRKAR1A
PROC	PROPI	PRX	PSAP	PTCH1	PTCH2
PTEN	RAD50	RAD51B	RAD51C	RAD51D	RB1
RECQL4	RET	RHBDF2	RNASEL	RPGRIP1L	RS1
RSP01	RTEL1	RUNX1	SBD5	SCNN1A	SCNN1B
SCNN1G	SDHA	SDHAF2	SDHB	SDHC	SDHD
SGSH	SLC26A2	SLC37A4	SLX4	SMAD4	SMARCA4
SMARCB1	SMPD1	SOX10	STAR	STK11	SUFU
TERC	TERT	TGFBR1	TINF2	TMC6	TMC8
TMEM127	TMEM67	TNNT1	TP53	TPP1	TRPV4
TSC1	TSC2	TSHB	UBA1	UROD	UROS
USH1C	USH1G	VHL	WAS	WRN	WT1
XPA	XPC	XRCC3	ZIC3		

Functional Groupings

Cancer Predisposition:

Many Cancers: AKT1, APC, ATR, BLM, BRCA2, BRIP1, BUB1B, CHEK2, EPCAM, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, FANCM, HRAS, LIG4, MLH1, MSH2, MSH6, PALB2, PIK3CA, PMS2, PRKAR1A, PTEN, SLX4, TP53, VHL.

Bone Cancers: EXT1, EXT2, MTAP, RECQL4, TP53.

Hereditary Breast-Ovarian Cancers: BARD1, BRCA1, BRCA2, CHEK2, RAD51B, RAD51C, RAD51D.

Colorectal Cancers: APC, AXIN2, GALNT12, MLH3, MUTYH, POLD1, POLE.

Endocrine Cancers: AIP, CDC73, CDKN1B, CYP21A2, GLI3, MAX, MEN1, NDUFA13, NTRK1, PDE11A, PRKAR1A, RET, TMEM127, TP53, VHL.

Gastrointestinal Tract Cancers: ASCC1, BMPR1A, CDH1, KIT, MSRI, PDGFRA, PTEN, RHBDF2, SDHC, SMAD4, STK11.

Head & Neck Cancers: CYLD, DKC1, RTEL1, TERC, TERT, TINF2, TSC1, TSC2.

Hematopoietic Cancers: ATM, CEBPA, GATA2, KLHDC8B, LYST, MRE11, NBN, RAD50, RUNX1, SBDS, TERT, WAS.

Kidney Cancers: DIS3L2, FH, FLCN, MET, MITF, POU6F2, WT1.

Liver Cancers: FAH, HFE, UROD.

Nervous System Cancers: ALK, GPC3, KIF1B, NF1, NF2, PRKAR1A, RB1, PHOX2B, SDHA, SDHAF2, SDHB, SDHD, SMARCA4, SMARCB1, SUFU.

Skin Cancers: BAP1, CDK4, CDKN2A, CYLD, DDB2, ERCC2, ERCC3, ERCC4, ERCC5, ERCC6, FH, FLCN, GLMN, MC1R, MITF, MSH2, POLH, PTCH1, PTCH2, RSP01, TGFBRI, TMC6, TMC8, XPA, XPC, XRCC3.

Soft Tissue Cancers: ANTXR1, ANTXR2, CD96, ESCO2, KDR, PTEN, WRN.

Other Cancers: BRCA2, CHEK1, DICER1, EHBP1, EPHB2, MSMB, MSRI, PALB2, PALLD, RNASEL.

Carrier Testing:

Cardiac: DMD, KCNQ1.

Cutaneous: COL1A2, COL7A1, EDA, EDN3, EDNRB, PLOD1, SOX10, UROS.

Deafness: GJB2, MYO7A.

Developmental: ARX, CD96, DHCR7, MKS1, PEX7, RPGRIP1L, SLC26A2, ZIC3.

Endocrine: CYP11A1, CYP21A2, CYP27B1, LHX3, POU1F1, PROP1, STAR, TSHB.

Hematologic: ADAMTS13, F11, F5, FANCC, HBB, PROC.

Immunodeficiency: ADA, ATM, BLM, BTK, IL2RG, MEFV, NBN, WAS.

Metabolic: ABCB11, ABCC8, ACADM, ACADS, ACADVL, AGA, AGL, AGPS, ALDOB, ASL, ASPA, ASS1, ATP7B, ATP8B1, BCKDHA, BCKDHB, BTBD, CBS, CTNS, CTSK, CYP27A1, DBT, DLD, FAH, G6PC, GAA, GALT, GBA, GCDH, GLA, GLB1, GNPTAB, HADHA, HADHB, HFE, HGSNAT, IDUA, LRPPRC, MCCC2, MCOLN1, MMAB, MTHFR, MMUT, NPC1, NPC2, OTC, PAH, PSAP, SGSH, SLC37A4, SMPD1.

Neurological: ABCD1, ADAMTS2, AHI1, ALDH3A2, ALS2, ARSA, ARX, ASAH1, ATP7A, Cep290, CLN3, CLN5, CLN6, CLN8, DCX, DMD, DNAJB2, EGR2, FGD4, FKR1, FKTN, FMR1, GLB1, HESX1, HEXA, HEXB, IGHMBP2, ELP1, L1CAM, LAMA2, MAPK10, MECP2, MFSD8, MPZ, MTM1, NEB, NPHP1, NTRK1, NUP62, PAX6, PDHA1, PEX1, PLEKHG5, PLP1, PMP22, POMGNT1, POMT1, PPT1, PRX, PSAP, TMEM67, TNNT1, TPP1, TRPV4, UBA1.

Neuromuscular: AMPD1.

Ocular: CDH23, Cep290, CHM, MYO7A, PCDH15, RS1, USH1C, USH1G.

Renal: COL4A3, COL4A4, INVS, NPHP1, NPHP4, PKHD1, SCNN1A, SCNN1B, SCNN1G.

Respiratory: CFTR.

Skeletal: CRTAP, P3H1, SLC26A2.

Ordering Information

Product	Contents	Cat. no.
QIAseq Targeted DNA Panel (12)	ALL reagents (except indexes) for targeted DNA sequencing; fixed panel for 12 samples; less than 200 genes	333502
QIAseq Targeted DNA Panel (96)	ALL reagents (except indexes) for targeted DNA sequencing; fixed panel for 96 samples; less than 200 genes	333505
QIAseq Targeted DNA HC Panel (12)	ALL reagents (except indexes) for targeted DNA sequencing; fixed panel for 12 samples; more than 200 genes	333512
QIAseq Targeted DNA HC Panel (96)	ALL reagents (except indexes) for targeted DNA sequencing; fixed panel for 96 samples; more than 200 genes	333515
QIAseq Targeted DNA Custom Panel (96)	ALL reagents (except indexes) for targeted DNA sequencing; Custom panel for 96 samples	333525
QIAseq Targeted DNA Extended Panel (96)	ALL reagents (except indexes) for targeted DNA sequencing; Extended panel for 96 samples	333545
QIAseq Targeted DNA Booster Panel (96)	Pool of primers used in combination with either cataloged or custom panels	333535

QIAseq Unique Dual Indices

QIAseq 96-Unique Dual Index Set A (384)	Box containing unique molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; Set A (of A and B) required for multiplexing 192 samples in one run	333725
QIAseq 96-Unique Dual Index Set B (384)	Box containing unique molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; Set A (of A and B) required for multiplexing 192 samples in one run	333735
QIAseq 8-Unique Dual Index Set A (48)	Box containing unique molecularly-indexed adapters and primers, enough for a total of 48 samples, for indexing up to 8 samples for targeted panel sequencing on Illumina platforms; Set A (of A and B) required for multiplexing 16 samples in one run	333715

Product	Contents	Cat. no.
QIAseq 8-Unique Dual Index Set B (48)	Box containing unique molecularly-indexed adapters and primers, enough for a total of 48 samples, for indexing up to 8 samples for targeted panel sequencing on Illumina platforms; Set A (of A and B) required for multiplexing 16 samples in one run	333716
QIAseq Combinatorial Dual Indices		
QIAseq 12-Index I (48)	Box containing molecularly indexed adapters and primers, enough for a total of 48 samples, for indexing up to 12 samples for targeted panel sequencing on Illumina platforms	333714
QIAseq 96-Index I Set A (384)	Box containing molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; one of 4 sets required for multiplexing 384 samples	333727
QIAseq 96-Index I Set B (384)	Box containing molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; 2 of 4 sets required for multiplexing 384 samples	333737
QIAseq 96-Index I Set C (384)	Box containing molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; 3 of 4 sets required for multiplexing 384 samples	333747
QIAseq 96-Index I Set D (384)	Box containing molecularly indexed adapters and primers, enough for a total of 384 samples, for indexing up to 96 samples for targeted panel sequencing on Illumina platforms; 4 of 4 sets required for multiplexing 384 samples	333757
QIAseq Targeted DNA Indices for Ion Torrent platforms		
QIAseq 12-Index L (48)	Box containing molecularly-indexed adapters and primers, enough for a total of 48 samples – for indexing up to 12 samples for targeted panel sequencing on Ion Torrent platforms	333764
QIAseq 96-Index L (384)	Box containing molecularly-indexed adapters and primers in arrays, enough for a total of 384 samples – for indexing up to 96 samples for targeted panel sequencing on Ion Torrent platforms	333777

Product	Contents	Cat. no.
Related products		
QIAseq Library Quant Array Kit	Reagents for quantification of libraries prepared for Illumina or Ion Torrent platforms; array format	333304
QIAseq Library Quant Assay Kit	Reagents for quantification of libraries prepared for Illumina or Ion Torrent platforms; assay format	333314
QIAseq DNA QuantiMIZE Array Kit	qPCR arrays for optimizing amount of input DNA and PCR cycling conditions for targeted enrichment of FFPE DNA	333404
QIAseq DNA QuantiMIZE Assay Kit	qPCR assays for optimizing amount of input DNA and PCR cycling conditions for targeted enrichment of FFPE DNA	333414
QIAamp DNA Mini Kit (50)	For 50 DNA preps: 50 QIAamp Mini Spin Columns, QIAGEN Proteinase K, Collection Tubes (2 ml), reagents and buffers	51304
QIAamp Circulating Nucleic Acid Kit (50)	For 50 DNA preps: QIAamp Mini Columns, Tube Extenders (20 ml), QIAGEN Proteinase K, Carrier RNA, Buffers, VacConnectors, and Collection Tubes (1.5 ml and 2 ml)	55114
QIAamp DNA FFPE Tissue Kit	For 50 DNA preps: 50 QIAamp MinElute Columns, Proteinase K, Buffers, Collection Tubes (2 ml)	56404
QIAamp DNA FFPE Advanced Kit	For 50 preps: QIAamp UCP MinElute Columns, collection tubes, Deparaffinization Solution, Proteinase K, RNase A, RNase-free water and buffers	56604
QIAamp DNA FFPE UNG Kit	For 50 preps: Uracil-N-glycosylase, QIAamp UCP MinElute columns, collection tubes, Deparaffinization Solution, Proteinase K, RNase A, RNase-free water and buffers	56704

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