

# QIAseq Targeted DNA Panels

## Human Comprehensive Cancer

Cat. Nos. 333512 DHS-3501Z-12 and 333515 DHS-3501Z-96

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

The QIAseq Targeted DNA Human Comprehensive Cancer Panel permits the sequencing of the whole coding region of 275 genes frequently mutated in many different cancer samples, covering 836,670 bases with 11,311 primers. Such frequently detected mutations are likely to be relevant or even important to cancer biology and may be used in translational research to classify samples with known phenotypes. Using the Catalogue of Somatic Mutations in Cancer (COSMIC), frequently mutated genes were collected for bone cancers, brain cancers, breast cancers, colorectal cancers, kidney cancers, leukemias, liver cancers, lung cancers, lymphomas, myelodysplastic syndromes (MDS), myeloproliferative neoplasms (MPN), ovarian cancers, pancreatic cancers, prostate cancers, sarcomas, skin cancers, thyroid cancers, urinary tract cancers, uterine cancers, other myeloid neoplasms, and other solid tumors. Using digital DNA sequencing, SNP/indels in a focused panel of genes relevant to oncology 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  $-15^{\circ}\text{C}$  in a constant-temperature freezer upon arrival. The QIAseq Beads and Ligation Solution are shipped on cold packs and should be stored at  $2-8^{\circ}\text{C}$  except that the Ligation Solution should be removed immediately upon receipt and stored at  $-30$  to  $-15^{\circ}\text{C}$  in a constant-temperature freezer. The QIAseq Index kits are shipped on dry ice and should be stored at  $-30^{\circ}\text{C}$  to  $-15^{\circ}\text{C}$  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

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

## Gene Table

| Gene Symbol | Gene Symbol | Gene Symbol | Gene Symbol | Gene Symbol | Gene Symbol |
|-------------|-------------|-------------|-------------|-------------|-------------|
| ABL1        | AKT2        | APC         | ARID1B      | ATR         | AURKC       |
| BAP1        | BCOR        | BLM         | BRIP1       | CBL         | CCND3       |
| CD79B       | CDK4        | CDKN2C      | CIC         | CSF3R       | CUX1        |
| DDR2        | DOT1L       | EP300       | ERBB2       | ESR1        | FANCA       |
| FANCF       | FGF4        | FGFR3       | FLT3        | GALNT12     | GEN1        |
| GREM1       | HGF         | HSP90AA1    | IGF1R       | INHBA       | JAK3        |
| KDR         | KMT2B       | LRP1B       | MAP3K1      | MDM2        | MEN1        |
| MPL         | MTOR        | MYCN        | NFE2L2      | NOTCH2      | NSD1        |
| NTRK3       | PBRM1       | PIK3CA      | PLCG1       | POLE        | PRKAR1A     |
| PTEN        | RAD50       | RET         | RNF43       | SETBP1      | SMAD4       |
| SMC3        | SOX9        | STAG2       | SUZ12       | TERT        | TNFRSF14    |
| TSC2        | VHL         | XRCC3       | ABRAXA51    | AKT3        | AR          |
| ARID2       | ATRX        | AXIN1       | BCL2        | BCORL1      | BRAF        |
| BTK         | CBLB        | CCNE1       | CDC73       | CDK6        | CEBPA       |
| CREBBP      | CTCF        | CXCR4       | DICER1      | EED         | EPA51       |
| ERBB3       | ETV6        | FANCC       | FANCG       | FGF6        | FGFR4       |
| FLT4        | GATA1       | GNAI1       | GRIN2A      | HNFI1A      | ID3         |
| IKZF1       | IRF4        | KAT6A       | KEAP1       | KMT2C       | MAP2K1      |
| MAP3K14     | MDM4        | MET         | MRE11       | MUTYH       | MYD88       |
| NFKB1A      | NOTCH3      | NSD2        | PAK3        | PDGFRA      | PIK3R1      |
| PMS1        | PPM1D       | PRKDC       | PTPN11      | RAD51       | RHEB        |
| ROS1        | SETD2       | SMARCA4     | SMO         | SPOP        | STAT3       |
| TAL1        | TET2        | TP53        | TSHR        | WT1         | ZNF217      |
| ACVR1B      | ALK         | ARAF        | ASXL1       | AURKA       | AXIN2       |
| BCL2L1      | BCR         | BRCA1       | CALR        | CBLC        | CD274       |
| CDH1        | CDKN2A      | CHEK1       | CRLF2       | CTNNA1      | CYLD        |
| DNM2        | EGFR        | EPHA3       | ERBB4       | EXO1        | FANCD2      |
| FAS         | FGFR1       | FH          | FOXL2       | GATA2       | GNAQ        |
| H3-3A       | HOXB13      | IDH1        | IKZF3       | JAK1        | KDM5C       |
| KIT         | KMT2D       | MAP2K2      | MAPK1       | MED12       | MITF        |
| MSH2        | MYC         | NF1         | NKX2-1      | NPM1        | NTRK1       |
| PALB2       | PDGFRB      | PIK3R2      | PMS2        | PPP2R1A     | PRSS1       |
| RAC1        | RAF1        | RHOA        | RUNX1       | SF3B1       | SMARCB1     |
| SOCS1       | SRC         | STK11       | TCF3        | TGFB2       | TRAF3       |
| U2AF1       | XPO1        | ZRSR2       | AKT1        | AMER1       | ARID1A      |
| ATM         | AURKB       | B2M         | BCL6        | BIRC3       | BRCA2       |
| CARD11      | CCND1       | CD79A       | CDK12       | CDKN2B      | CHEK2       |
| CSF1R       | CTNNB1      | DAXX        | DNMT3A      | EGLN1       | EPHA5       |
| ERG         | EZH2        | FANCE       | FBXW7       | FGFR2       | FLCN        |
| FUBP1       | GATA3       | GNA5        | H3C2        | HRA5        | IDH2        |
| IL7R        | JAK2        | KDM6A       | KMT2A       | KRAS        | MAP2K4      |
| MCL1        | MEF2B       | MLH1        | MSH6        | MYCL        | NF2         |
| NOTCH1      | NRAS        | NTRK2       | PAX5        | PHF6        | PIM1        |
| POLD1       | PRDM1       | PTCH1       | RAD21       | RB1         | RIT1        |
| SDHB        | SMAD2       | SMC1A       | SOX2        | SRSF2       | SUFU        |
| TENT5C      | TNFAIP3     | TSC1        | U2AF2       | XRCC2       |             |

## Functional Groupings

**Adhesion:** ABL1, APC, CDH1, CSF3R, CTNNB1, DDR2, EGFR, ERBB2, GATA1, JAK2, KDR, NF1, NF2, NOTCH1, PDGFRA, PTEN, PTPN11, RAC1, RET, RHOA, SRC, TSC1.

**Angiogenesis:** CTNNB1, ERBB2, FGFR2, FLT4, GATA2, GR.EM1, HOXB13, KDR, NF1, NOTCH1, PIK3CA, PLCG1, PTEN, RUNX1, TNFAIP3, VHL.

**Apoptosis:** ABL1, APC, ARAF, AXIN1, BCL2, BCL2L1, BCL6, BIRC3, BRAF, CBL, CTNNA1, CTNNB1, CYLD, DAXX, FAS, FLT3, FOXL2, GATA1, HGF, HRAS, ID3, MAP2K4, MCL1, MDM4, MYCN, NF1, NPM1, PIM1, PRKDC, PTEN, RAD21, RAD50, RAD51, RAF1, RB1, SOX9, STK11, TNFAIP3, TRAF3, VHL, WT1.

**Cell Cycle:** ABL1, AKT1, APC, ATR, BCR, BLM, CCND1, CCND3, CCNE1, CDC73, CDK12, CDK4, CDK6, CDKN2A, CDKN2B, CDKN2C, CHEK1, CHEK2, CREBBP, CUX1, CYLD, FBXW7, FGFR2, HRAS, ID3, INHBA, MRE11, MYC, NPM1, PIM1, PTEN, RAD21, RAD50, RAD51, RB1, RHEB, RHOA, SMARCA4, SMARCB1, SMC1A, SMC3, SOX2, SOX9, STAG2, STK11, TAL1, TCF3, TNFAIP3, TP53, TSC1, XPO1.

**DNA Damage & Repair:** ABL1, ABRAXAS1, APC, ATM, ATR, ATRX, BLM, BRCA1, BRCA2, BRIP1, CHEK1, CHEK2, EP300, EXO1, FANCA, FANCC, FANCD2, FANCE, FANCF, FANCG, GEN1, MDM2, MEN1, MLH1, MRE11, MSH2, MSH6, MUTYH, NPM1, PALB2, PMS1, PMS2, POLD1, POLE, PRKDC, RAD21, RAD50, RAD51, SMC1A, SMC3, STK11, TP53, XRCC2, XRCC3.

**Epigenetics:** ARID1A, ARID1B, ARID2, ASXL1, ATRX, AURKA, AURKB, AURKC, BCOR, BCORL1, CTCF, DICER1, DNMT3A, DOT1L, EED, EZH2, H3-3A, H3C2, IKZF1, KAT6A, KDM5C, KDM6A, KMT2A, KMT2B, KMT2C, KMT2D, NSD1, NSD2, PBRM1, PHF6, PRDM1, SETBP1, SETD2, SMARCA4, SMARCB1, SPOP, SUZ12, TCF3, TET2

**Hypoxia:** CREBBP, EGLN1, EP300, EPAS1, NF1, SMAD4, VHL.

**Immune Response:** ALK, B2M, BTK, CARD11, CBLB, CD274, CD79A, CD79B, CREBBP, CRLF2, CXCR4, CYLD, EP300, IKZF3, IL7R, IRF4, JAK1, JAK2, JAK3, MAP2K1, MAP2K2, MAP3K1, MCL1, MYD88, NFKBIA, PAX5, PIK3CA, PIK3R1, PTEN, PTPN11, TENT5C, TNFAIP3, TNFRSF14, TP53, TRAF3.

**Inflammatory Response:** BCR, CEBPA, CSF1R, CXCR4, JAK2, MYD88, TNFAIP3.

**Metabolism:** FH, IDH1, IDH2, MTOR, SDHB.

**Oncogenes:** ABL1, AKT1, ALK, AR, BCL2, BRAF, CARD11, CBL, CDK4, CRLF2, CSF1R, CTNNB1, DNMT3A, EGFR, ERBB2, EZH2, FGFR2, FGFR3, FLT3, FOXL2, GATA2, GNA11, GNAQ, GNAS, H3-3A, H3C2, HRAS, IDH1, IDH2, JAK1, JAK2, JAK3, KIT, KRAS, MAP2K1, MED12, MET, MPL, MYD88, NFE2L2, NRAS, PDGFRA, PIK3CA, PPP2R1A, PTPN11, RET, SETBP1, SF3B1, SMO, SPOP, SRC, SRSF2, TSHR, U2AF1.

### Signal Transduction:

AKT & PI3 Kinase Signaling: AKT1, AKT2, AKT3, CBL, ERBB2, FLT3, JAK2, KDR, KIT, NF1, PDGFRA, PIK3CA, PIK3R1, PIK3R2, PTEN.

Fibroblast Growth Factor Signaling: AKT1, FGF4, FGF6, FGFR1, FGFR2, FGFR3, FGFR4, PIK3CA, PIK3R1, PTEN, PTPN11, SRC.

G-Protein Coupled Receptor Signaling: AKT1, GNA11, GNAQ, GNAS, SMO, TSHR.

Hedgehog Signaling: PTCH1, SUFU.

Hormone Receptors: AR, ESR1.

JAK / STAT Signaling: JAK1, JAK2, JAK3, SOCS1, STAT3.

MAP Kinase Signaling: CBLC, HGF, MAP2K1, MAP2K2, MAP2K4, MAP3K1, MAP3K14, MAPK1, NRAS, PPM1D, RAF1, RIT1, SOX2.

NFκB Signaling: GREM1, TRAF3.

Notch Signaling: NOTCH3, FBXW7, GATA2, NOTCH1, NOTCH2.

---

Receptor Tyrosine Kinases: ALK, CSF1R, DDR2, EGFR, ERBB2, ERBB3, ERBB4, FGFR1, FGFR4, FLT3, FLT4, IGF1R, KDR, KIT, NTRK1, NTRK2, NTRK3, PDGFRA, PDGFRB, RET, ROS1, TGFBR2.

TGFβ Signaling: ACVR1B, SMAD2, TGFBR2.

WNT Signaling: AMER1, APC, AXIN1, AXIN2, CTNNB1, CYLD, HNF1A, MED12, PPP2R1A, RNF43, SOX2, TSC2.

Other Signal Transduction Genes: EPHA3, EPHA5, KRAS, MET, PRKAR1A, SMAD4.

**Transcription Factors:** AR, CEBPA, CIC, CUX1, ERG, ESR1, ETV6, FBXW7, FOXL2, FUBP1, GATA1, GATA2, GATA3, HNF1A, HOXB13, ID3, IRF4, KEAP1, MEF2B, MEN1, MITF, MYC, MYCL, MYCN, NFE2L2, NKX2-1, PAX5, RB1, RUNX1, SOX2, SOX9, TAL1, TCF3, TP53, WT1, ZNF217.

**Tumor Suppressor Genes:** ACVR1B, AMER1, APC, ARID1A, ARID1B, ARID2, ASXL1, ATM, ATRX, AXIN1, B2M, BAP1, BCOR, BRCA1, BRCA2, CDC73, CDH1, CDKN2A, CEBPA, CIC, CREBBP, CYLD, DAXX, EP300, FBXW7, FUBP1, GATA1, GATA3, HNF1A, KDM5C, KDM6A, KMT2C, KMT2D, MAP3K1, MEN1, MLH1, MSH2, MSH6, NF1, NF2, NOTCH1, NOTCH2, NPM1, PAX5, PBRM1, PHF6, PIK3R1, PRDM1, PTCH1, PTEN, RB1, RNF43, RUNX1, SETD2, SMAD2, SMAD4, SMARCA4, SMARCB1, SOCS1, SOX9, STAG2, STK11, TET2, TNFAIP3, TP53, TSC1, VHL, WT1.

**Ubiquitination:** BAP1, BCOR, CBLB, DAXX, MDM2, RNF43.

**Unfolded Protein Response:** CALR, HSP90AA1, NFE2L2, NPM1.

**mRNA Splicing:** SF3B1, SMC1A, SRSF2, U2AF1, U2AF2, ZRSR2.

**Other Cancer-Related Genes:** DNMT3A, DNMT3B, DNMT3L, DNMT3O, DNMT3A2, DNMT3A3, DNMT3A3L, DNMT3A3B, DNMT3A3C, DNMT3A3D, DNMT3A3E, DNMT3A3F, DNMT3A3G, DNMT3A3H, DNMT3A3I, DNMT3A3J, DNMT3A3K, DNMT3A3L, DNMT3A3M, DNMT3A3N, DNMT3A3O, DNMT3A3P, DNMT3A3Q, DNMT3A3R, DNMT3A3S, DNMT3A3T, DNMT3A3U, DNMT3A3V, DNMT3A3W, DNMT3A3X, DNMT3A3Y, DNMT3A3Z, DNMT3A3AA, DNMT3A3AB, DNMT3A3AC, DNMT3A3AD, DNMT3A3AE, DNMT3A3AF, DNMT3A3AG, DNMT3A3AH, DNMT3A3AI, DNMT3A3AJ, DNMT3A3AK, DNMT3A3AL, DNMT3A3AM, DNMT3A3AN, DNMT3A3AO, DNMT3A3AP, DNMT3A3AQ, DNMT3A3AR, DNMT3A3AS, DNMT3A3AT, DNMT3A3AU, DNMT3A3AV, DNMT3A3AW, DNMT3A3AX, DNMT3A3AY, DNMT3A3AZ, DNMT3A3BA, DNMT3A3BB, DNMT3A3BC, DNMT3A3BD, DNMT3A3BE, DNMT3A3BF, DNMT3A3BG, DNMT3A3BH, DNMT3A3BI, DNMT3A3BJ, DNMT3A3BK, DNMT3A3BL, DNMT3A3BM, DNMT3A3BN, DNMT3A3BO, DNMT3A3BP, DNMT3A3BQ, DNMT3A3BR, DNMT3A3BS, DNMT3A3BT, DNMT3A3BU, DNMT3A3BV, DNMT3A3BW, DNMT3A3BX, DNMT3A3BY, DNMT3A3BZ, DNMT3A3CA, DNMT3A3CB, DNMT3A3CC, DNMT3A3CD, DNMT3A3CE, DNMT3A3CF, DNMT3A3CG, DNMT3A3CH, DNMT3A3CI, DNMT3A3CJ, DNMT3A3CK, DNMT3A3CL, DNMT3A3CM, DNMT3A3CN, DNMT3A3CO, DNMT3A3CP, DNMT3A3CQ, DNMT3A3CR, DNMT3A3CS, DNMT3A3CT, DNMT3A3CU, DNMT3A3CV, DNMT3A3CW, DNMT3A3CX, DNMT3A3CY, DNMT3A3CZ, DNMT3A3DA, DNMT3A3DB, DNMT3A3DC, DNMT3A3DD, DNMT3A3DE, DNMT3A3DF, DNMT3A3DG, DNMT3A3DH, DNMT3A3DI, DNMT3A3DJ, DNMT3A3DK, DNMT3A3DL, DNMT3A3DM, DNMT3A3DN, DNMT3A3DO, DNMT3A3DP, DNMT3A3DQ, DNMT3A3DR, DNMT3A3DS, DNMT3A3DT, DNMT3A3DU, DNMT3A3DV, DNMT3A3DW, DNMT3A3DX, DNMT3A3DY, DNMT3A3DZ, DNMT3A3EA, DNMT3A3EB, DNMT3A3EC, DNMT3A3ED, DNMT3A3EE, DNMT3A3EF, DNMT3A3EG, DNMT3A3EH, DNMT3A3EI, DNMT3A3EJ, DNMT3A3EK, DNMT3A3EL, DNMT3A3EM, DNMT3A3EN, DNMT3A3EO, DNMT3A3EP, DNMT3A3EQ, DNMT3A3ER, DNMT3A3ES, DNMT3A3ET, DNMT3A3EU, DNMT3A3EV, DNMT3A3EW, DNMT3A3EX, DNMT3A3EY, DNMT3A3EZ, DNMT3A3FA, DNMT3A3FB, DNMT3A3FC, DNMT3A3FD, DNMT3A3FE, DNMT3A3FF, DNMT3A3FG, DNMT3A3FH, DNMT3A3FI, DNMT3A3FJ, DNMT3A3FK, DNMT3A3FL, DNMT3A3FM, DNMT3A3FN, DNMT3A3FO, DNMT3A3FP, DNMT3A3FQ, DNMT3A3FR, DNMT3A3FS, DNMT3A3FT, DNMT3A3FU, DNMT3A3FV, DNMT3A3FW, DNMT3A3FX, DNMT3A3FY, DNMT3A3FZ, DNMT3A3GA, DNMT3A3GB, DNMT3A3GC, DNMT3A3GD, DNMT3A3GE, DNMT3A3GF, DNMT3A3GG, DNMT3A3GH, DNMT3A3GI, DNMT3A3GJ, DNMT3A3GK, DNMT3A3GL, DNMT3A3GM, DNMT3A3GN, DNMT3A3GO, DNMT3A3GP, DNMT3A3GQ, DNMT3A3GR, DNMT3A3GS, DNMT3A3GT, DNMT3A3GU, DNMT3A3GV, DNMT3A3GW, DNMT3A3GX, DNMT3A3GY, DNMT3A3GZ, DNMT3A3HA, DNMT3A3HB, DNMT3A3HC, DNMT3A3HD, DNMT3A3HE, DNMT3A3HF, DNMT3A3HG, DNMT3A3HH, DNMT3A3HI, DNMT3A3HJ, DNMT3A3HK, DNMT3A3HL, DNMT3A3HM, DNMT3A3HN, DNMT3A3HO, DNMT3A3HP, DNMT3A3HQ, DNMT3A3HR, DNMT3A3HS, DNMT3A3HT, DNMT3A3HU, DNMT3A3HV, DNMT3A3HW, DNMT3A3HX, DNMT3A3HY, DNMT3A3HZ, DNMT3A3IA, DNMT3A3IB, DNMT3A3IC, DNMT3A3ID, DNMT3A3IE, DNMT3A3IF, DNMT3A3IG, DNMT3A3IH, DNMT3A3II, DNMT3A3IJ, DNMT3A3IK, DNMT3A3IL, DNMT3A3IM, DNMT3A3IN, DNMT3A3IO, DNMT3A3IP, DNMT3A3IQ, DNMT3A3IR, DNMT3A3IS, DNMT3A3IT, DNMT3A3IU, DNMT3A3IV, DNMT3A3IW, DNMT3A3IX, DNMT3A3IY, DNMT3A3IZ, DNMT3A3JA, DNMT3A3JB, DNMT3A3JC, DNMT3A3JD, DNMT3A3JE, DNMT3A3JF, DNMT3A3JG, DNMT3A3JH, DNMT3A3JI, DNMT3A3JJ, DNMT3A3JK, DNMT3A3JL, DNMT3A3JM, DNMT3A3JN, DNMT3A3JO, DNMT3A3JP, DNMT3A3JQ, DNMT3A3JR, DNMT3A3JS, DNMT3A3JT, DNMT3A3JU, DNMT3A3JV, DNMT3A3JW, DNMT3A3JX, DNMT3A3JY, DNMT3A3JZ, DNMT3A3KA, DNMT3A3KB, DNMT3A3KC, DNMT3A3KD, DNMT3A3KE, DNMT3A3KF, DNMT3A3KG, DNMT3A3KH, DNMT3A3KI, DNMT3A3KJ, DNMT3A3KK, DNMT3A3KL, DNMT3A3KM, DNMT3A3KN, DNMT3A3KO, DNMT3A3KP, DNMT3A3KQ, DNMT3A3KR, DNMT3A3KS, DNMT3A3KT, DNMT3A3KU, DNMT3A3KV, DNMT3A3KW, DNMT3A3KX, DNMT3A3KY, DNMT3A3KZ, DNMT3A3LA, DNMT3A3LB, DNMT3A3LC, DNMT3A3LD, DNMT3A3LE, DNMT3A3LF, DNMT3A3LG, DNMT3A3LH, DNMT3A3LI, DNMT3A3LJ, DNMT3A3LK, DNMT3A3LL, DNMT3A3LM, DNMT3A3LN, DNMT3A3LO, DNMT3A3LP, DNMT3A3LQ, DNMT3A3LR, DNMT3A3LS, DNMT3A3LT, DNMT3A3LU, DNMT3A3LV, DNMT3A3LW, DNMT3A3LX, DNMT3A3LY, DNMT3A3LZ, DNMT3A3MA, DNMT3A3MB, DNMT3A3MC, DNMT3A3MD, DNMT3A3ME, DNMT3A3MF, DNMT3A3MG, DNMT3A3MH, DNMT3A3MI, DNMT3A3MJ, DNMT3A3MK, DNMT3A3ML, DNMT3A3MM, DNMT3A3MN, DNMT3A3MO, DNMT3A3MP, DNMT3A3MQ, DNMT3A3MR, DNMT3A3MS, DNMT3A3MT, DNMT3A3MU, DNMT3A3MV, DNMT3A3MW, DNMT3A3MX, DNMT3A3MY, DNMT3A3MZ, DNMT3A3NA, DNMT3A3NB, DNMT3A3NC, DNMT3A3ND, DNMT3A3NE, DNMT3A3NF, DNMT3A3NG, DNMT3A3NH, DNMT3A3NI, DNMT3A3NJ, DNMT3A3NK, DNMT3A3NL, DNMT3A3NM, DNMT3A3NN, DNMT3A3NO, DNMT3A3NP, DNMT3A3NQ, DNMT3A3NR, DNMT3A3NS, DNMT3A3NT, DNMT3A3NU, DNMT3A3NV, DNMT3A3NW, DNMT3A3NX, DNMT3A3NY, DNMT3A3NZ, DNMT3A3OA, DNMT3A3OB, DNMT3A3OC, DNMT3A3OD, DNMT3A3OE, DNMT3A3OF, DNMT3A3OG, DNMT3A3OH, DNMT3A3OI, DNMT3A3OJ, DNMT3A3OK, DNMT3A3OL, DNMT3A3OM, DNMT3A3ON, DNMT3A3OO, DNMT3A3OP, DNMT3A3OQ, DNMT3A3OR, DNMT3A3OS, DNMT3A3OT, DNMT3A3OU, DNMT3A3OV, DNMT3A3OW, DNMT3A3OX, DNMT3A3OY, DNMT3A3OZ, DNMT3A3PA, DNMT3A3PB, DNMT3A3PC, DNMT3A3PD, DNMT3A3PE, DNMT3A3PF, DNMT3A3PG, DNMT3A3PH, DNMT3A3PI, DNMT3A3PJ, DNMT3A3PK, DNMT3A3PL, DNMT3A3PM, DNMT3A3PN, DNMT3A3PO, DNMT3A3PP, DNMT3A3PQ, DNMT3A3PR, DNMT3A3PS, DNMT3A3PT, DNMT3A3PU, DNMT3A3PV, DNMT3A3PW, DNMT3A3PX, DNMT3A3PY, DNMT3A3PZ, DNMT3A3QA, DNMT3A3QB, DNMT3A3QC, DNMT3A3QD, DNMT3A3QE, DNMT3A3QF, DNMT3A3QG, DNMT3A3QH, DNMT3A3QI, DNMT3A3QJ, DNMT3A3QK, DNMT3A3QL, DNMT3A3QM, DNMT3A3QN, DNMT3A3QO, DNMT3A3QP, DNMT3A3QQ, DNMT3A3QR, DNMT3A3QS, DNMT3A3QT, DNMT3A3QU, DNMT3A3QV, DNMT3A3QW, DNMT3A3QX, DNMT3A3QY, DNMT3A3QZ, DNMT3A3RA, DNMT3A3RB, DNMT3A3RC, DNMT3A3RD, DNMT3A3RE, DNMT3A3RF, DNMT3A3RG, DNMT3A3RH, DNMT3A3RI, DNMT3A3RJ, DNMT3A3RK, DNMT3A3RL, DNMT3A3RM, DNMT3A3RN, DNMT3A3RO, DNMT3A3RP, DNMT3A3RQ, DNMT3A3RR, DNMT3A3RS, DNMT3A3RT, DNMT3A3RU, DNMT3A3RV, DNMT3A3RW, DNMT3A3RX, DNMT3A3RY, DNMT3A3RZ, DNMT3A3SA, DNMT3A3SB, DNMT3A3SC, DNMT3A3SD, DNMT3A3SE, DNMT3A3SF, DNMT3A3SG, DNMT3A3SH, DNMT3A3SI, DNMT3A3SJ, DNMT3A3SK, DNMT3A3SL, DNMT3A3SM, DNMT3A3SN, DNMT3A3SO, DNMT3A3SP, DNMT3A3SQ, DNMT3A3SR, DNMT3A3SS, DNMT3A3ST, DNMT3A3SU, DNMT3A3SV, DNMT3A3SW, DNMT3A3SX, DNMT3A3SY, DNMT3A3SZ, DNMT3A3TA, DNMT3A3TB, DNMT3A3TC, DNMT3A3TD, DNMT3A3TE, DNMT3A3TF, DNMT3A3TG, DNMT3A3TH, DNMT3A3TI, DNMT3A3TJ, DNMT3A3TK, DNMT3A3TL, DNMT3A3TM, DNMT3A3TN, DNMT3A3TO, DNMT3A3TP, DNMT3A3TQ, DNMT3A3TR, DNMT3A3TS, DNMT3A3TT, DNMT3A3TU, DNMT3A3TV, DNMT3A3TW, DNMT3A3TX, DNMT3A3TY, DNMT3A3TZ, DNMT3A3UA, DNMT3A3UB, DNMT3A3UC, DNMT3A3UD, DNMT3A3UE, DNMT3A3UF, DNMT3A3UG, DNMT3A3UH, DNMT3A3UI, DNMT3A3UJ, DNMT3A3UK, DNMT3A3UL, DNMT3A3UM, DNMT3A3UN, DNMT3A3UO, DNMT3A3UP, DNMT3A3UQ, DNMT3A3UR, DNMT3A3US, DNMT3A3UT, DNMT3A3UU, DNMT3A3UV, DNMT3A3UW, DNMT3A3UX, DNMT3A3UY, DNMT3A3UZ, DNMT3A3VA, DNMT3A3VB, DNMT3A3VC, DNMT3A3VD, DNMT3A3VE, DNMT3A3VF, DNMT3A3VG, DNMT3A3VH, DNMT3A3VI, DNMT3A3VJ, DNMT3A3VK, DNMT3A3VL, DNMT3A3VM, DNMT3A3VN, DNMT3A3VO, DNMT3A3VP, DNMT3A3VQ, DNMT3A3VR, DNMT3A3VS, DNMT3A3VT, DNMT3A3VU, DNMT3A3VV, DNMT3A3VW, DNMT3A3VX, DNMT3A3VY, DNMT3A3VZ, DNMT3A3WA, DNMT3A3WB, DNMT3A3WC, DNMT3A3WD, DNMT3A3WE, DNMT3A3WF, DNMT3A3WG, DNMT3A3WH, DNMT3A3WI, DNMT3A3WJ, DNMT3A3WK, DNMT3A3WL, DNMT3A3WM, DNMT3A3WN, DNMT3A3WO, DNMT3A3WP, DNMT3A3WQ, DNMT3A3WR, DNMT3A3WS, DNMT3A3WT, DNMT3A3WU, DNMT3A3WV, DNMT3A3WW, DNMT3A3WX, DNMT3A3WY, DNMT3A3WZ, DNMT3A3XA, DNMT3A3XB, DNMT3A3XC, DNMT3A3XD, DNMT3A3XE, DNMT3A3XF, DNMT3A3XG, DNMT3A3XH, DNMT3A3XI, DNMT3A3XJ, DNMT3A3XK, DNMT3A3XL, DNMT3A3XM, DNMT3A3XN, DNMT3A3XO, DNMT3A3XP, DNMT3A3XQ, DNMT3A3XR, DNMT3A3XS, DNMT3A3XT, DNMT3A3XU, DNMT3A3XV, DNMT3A3XW, DNMT3A3XX, DNMT3A3XY, DNMT3A3XZ, DNMT3A3YA, DNMT3A3YB, DNMT3A3YC, DNMT3A3YD, DNMT3A3YE, DNMT3A3YF, DNMT3A3YG, DNMT3A3YH, DNMT3A3YI, DNMT3A3YJ, DNMT3A3YK, DNMT3A3YL, DNMT3A3YM, DNMT3A3YN, DNMT3A3YO, DNMT3A3YP, DNMT3A3YQ, DNMT3A3YR, DNMT3A3YS, DNMT3A3YT, DNMT3A3YU, DNMT3A3YV, DNMT3A3YW, DNMT3A3YX, DNMT3A3YY, DNMT3A3YZ, DNMT3A3ZA, DNMT3A3ZB, DNMT3A3ZC, DNMT3A3ZD, DNMT3A3ZE, DNMT3A3ZF, DNMT3A3ZG, DNMT3A3ZH, DNMT3A3ZI, DNMT3A3ZJ, DNMT3A3ZK, DNMT3A3ZL, DNMT3A3ZM, DNMT3A3ZN, DNMT3A3ZO, DNMT3A3ZP, DNMT3A3ZQ, DNMT3A3ZR, DNMT3A3ZS, DNMT3A3ZT, DNMT3A3ZU, DNMT3A3ZV, DNMT3A3ZW, DNMT3A3ZX, DNMT3A3ZY, DNMT3A3ZZ.

## 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   |
| <b>QIAseq Unique Dual Indices</b>       |                                                                                                                                                                                                                                                           |          |
| 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   |
| <b>QIAseq Combinatorial Dual Indices</b>                     |                                                                                                                                                                                                                                                        |          |
| 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   |
| <b>QIAseq Targeted DNA Indices for Ion Torrent platforms</b> |                                                                                                                                                                                                                                                        |          |
| 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. |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>Related products</b>                  |                                                                                                                                                                    |          |
| 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    |

QIAseq Targeted DNA Panels are intended for molecular biology applications. These products are not intended for the diagnosis, prevention or treatment of a disease.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN® (QIAGEN Group)  
1100784 02/2016 © 2016 QIAGEN, all rights reserved.

[www.qiagen.com](http://www.qiagen.com)

**Australia** ■ 1-800-243-800

**Austria** ■ 0800/281010

**Belgium** ■ 0800-79612

**Brazil** ■ 0800-557779

**Canada** ■ 800-572-9613

**China** ■ 8621-3865-3865

**Denmark** ■ 80-885945

**Finland** ■ 0800-914416

**France** ■ 01-60-920-930

**Germany** ■ 02103-29-12000

**Hong Kong** ■ 800 933 965

**Ireland** ■ 1800 555 049

**Italy** ■ 800-787980

**Japan** ■ 03-6890-7300

**Korea (South)** ■ 080-000-7145

**Luxembourg** ■ 8002 2076

**Mexico** ■ 01-800-7742-436

**The Netherlands** ■ 0800 0229592

**Norway** ■ 800-18859

**Singapore** ■ 1800-742-4368

**Spain** ■ 91-630-7050

**Sweden** ■ 020-790282

**Switzerland** ■ 055-254-22-11

**UK** ■ 01293-422-911

**USA** ■ 800-426-8157



---

**Sample to Insight**