

Developed and tested by genomic experts, SOPHiA DDM™ CPS is a next generation sequencing (NGS) application that combines a capture-based target enrichment kit with the analytical capabilities and advanced features of the SOPHiA DDM™ Platform.

Main Features

SOPHiA DDM™ CPS is a comprehensive genomic profiling (CGP) application covering **556 total unique genes^a** associated with solid tumors. It targets **480 genes** from **DNA** and, in combination with the SOPHiA DDM™ RNAtarget Technology solutions, covers novel fusion detection in **16** or **136 genes** from **RNA^b**. Probe design is optimized to guarantee high on-target rate and coverage uniformity throughout the entire target regions.

Gene Panel	Variants Called	Recommendations	Wet Lab (DNA only)	Wet Lab (DNA & RNA)
See next page for full gene list.	• SNVs and Indels • CNVs in 454 genes • Whole gene amplifications and deletions • Novel (partner-agnostic) fusions • Tumor molecular burden (TMB) • Microsatellite instability (MSI)	Starting material 50 ng recommended (10 ng minimum) DNA 50 ng recommended (10 ng minimum) RNA Sample type FFPE Samples per run: • Illumina NextSeq® 550 high-output (2x150bp): 16 DNA + 16 RNA* (50M reads); 8 DNA + 8 RNA** (100M reads) • Illumina NextSeq® 2000 P2 (2x150bp): 16 DNA + 16 RNA* (50M reads); 8 DNA + 8 RNA** (100M reads) • Illumina NovaSeq™ 6000 S1: 16 DNA + 16 RNA* (50M reads); 8 DNA + 8 RNA** (100M reads) 16* or 136** genes from RNA covered by SOPHiA DDM™ RNAtarget Technology solutions.	Day 1: DNA Library Preparation Day 2: DNA Capture and Sequencing Total library preparation time: 1.5 days	Day 1: RNA Library Preparation Day 2: DNA Library Preparation Day 3 DNA & RNA Capture and Sequencing Total library preparation time: 2.5 days

Analytical Performance

The SOPHiA DDM™ Platform analyzes complex NGS data by detecting, annotating and pre-classifying multiple types of genomic alterations in one unique experiment.

NextSeq® 550 (50M / 16 samples)*	
SNV/Indel calling ^c	100% sensitivity
CNV analysis ^{d*}	88% concordance to confirmed CNV status
TMB measurement ^e	95.45% OPA
MSI detection ^f	100% concordance to confirmed MSI status
Reproducibility	99.1%
On-target mapping rate	>94%
Coverage uniformity	≥98.5%

For more information on analytical performance with NextSeq® 2000 and NovaSeq™ 6000, please contact your local Sales representative or info@sophiagenetics.com

*CNV performance analysis is based on samples analyzed at 100M reads.

One Simple Intuitive Platform: Beyond Analytics

Accelerated assessment and reporting of genomic variants

The SOPHiA DDM™ Platform helps users to immediately focus on relevant genomic alterations. Several features facilitate their interpretation process:

- Algorithm-supported variant pre-classification
- Fully customizable filters
- Comprehensive report

Product code:

SOPHiA DDM™ CPS (DNA): CS2545ILLRSMY10-32
SOPHiA DDM™ RNAtarget PanCancer Solution (RNA): CS2517ILLRSRY07-32
SOPHiA DDM™ RNAtarget Oncology Solution (RNA): CS2535ILLRSRY07-32

Confident decision-making

OncoPortal™ Plus, part of the SOPHiA DDM™ Platform, matches tumor molecular profiles with clinical associations and available clinical trials, leveraging expertly curated evidence powered by Genomenon Clinical Knowledgebase (CKB). After interpretation, the flexible reporting tools enable users to prepare push-button, comprehensive reports that are customizable to their needs.

Global support at every step

We offer local support anywhere in the world. Our dedicated bioinformaticians help save time and resources, ensuring fast resolution of workflow disruptions. In addition, our MaxCare Program provides assistance with assay set up for fast and worry-free transition into routine analysis.

Secure data storage

The SOPHiA DDM™ Platform keeps data safe by applying the highest industrial standards of encryption in compliance with local data security policies.

Access to the SOPHiA GENETICS™ Community

Through the SOPHiA DDM™ Platform genomics experts from hundreds of healthcare institutions interpret their findings and flag the pathogenicity level of variants. This highly valuable information enriches the variant knowledge base and is safely shared among the members of the community, supporting their decision-making process for research purposes.

For Research Use Only. Not for Use in Diagnostic Procedures.

*Coupling with SOPHiA DDM™ RNAtarget PanCancer Solution; **Based on analysis of reference samples sequenced with NextSeq® 550 (n=3); ^cBased on analysis of 7 samples with 17 confirmed gene amplifications; ^eBased on analysis of 22 samples with confirmed TMB status. ^fBased on analysis of 19 samples with confirmed MSI status. Previously reported MSS samples were detected as MSS or MSI-LC. MSI-LC counted as stable for concordance analysis. CNV, copy number variant; LC, low confidence; MSI, microsatellite instability; MSS, microsatellite stable; OPA, overall percent agreement; TMB, tumor mutational burden. All third party trademarks listed by SOPHiA GENETICS remain the property of their respective owners. Unless specifically identified as such, SOPHiA GENETICS' use of third party trademarks does not indicate any relationship, sponsorship, or endorsement between SOPHiA GENETICS and the owners of these trademarks. Any references by SOPHiA GENETICS to third party trademarks is to identify the corresponding third party goods and/or services and shall be considered nominative fair use under the trademark law. Somatic gene variant annotations and related content have been powered by, without limitation, Genomenon Clinical Knowledgebase (CKB).

DNA (480): ABCB11, ABHD12, ABL1, FAM175A, ACTA2, ACVR1, ADAMTS2, ADGRA2, AKAP9, AKT1, AKT2, AKT3, ALK, AMER1, ANKRD11, ANKRD26, APC, AR, ARAF, ARFRP1, ARID1A, ARID1B, ARID2, ARID5B, ASXL1, ASXL2, ATM, ATR, ATRX, AURKA, AURKB, AXIN1, AXIN2, B2M, BAP1, BARD1, BBC3, BCL2, BCL6, BCL10, BCOR, BCORL1, BIRC3, BLM, BMPR1A, BRAF, BRCA1, BRCA2, BRD4, BRIP1, BTG1, BTK, CALR, CARD11, CASP8, CBL, CBLB, CCND1, CCND2, CCND3, CCNE1, CD58, CD79B, CD274, CD276, CDC73, CDH1, CDK4, CDK6, CDK8, CDK12, CDKN1B, CDKN2A, CDKN2B, CDKN2C, CEBPA, CENPA, CERKL, CHD2, CHD4, CHD8, CHEK1, CHEK2, CIC, CIITA, COL17A1, RFWD2, CREBBP, CRKL, CSF1R, CSF3R, CSNK1A1, CTCF, CTLA4, CTNNA1, CTNNB1, CUL3, CUX1, CXCR4, CYLD, DAXX, DCUN1D1, DDR2, DDX3X, DDX41, DHX15, DICER1, DIS3, DNAJB1, DNMT1, DNMT3A, DNMT3B, DOT1L, DPP6, E2F3, EED, EGFL7, EGFR, EIF1AX, EIF4A2, EML4, EMSY, EP300, EPCAM, EPHB1, ERBB2, ERBB3, ERBB4, ERCC1, ERCC2, ERCC3, ERCC4, ERCC5, ERG, ESR1, ESR2, ETS1, ETV1, ETV5, ETV6, EZH2, FANCA, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, FANCM, FAS, FAT1, FBXW7, FGF1, FGF4, FGF5, FGF6, FGF7, FGF8, FGF19, FGF23, FGFR1, FGFR2, FGFR3, FGFR4, FH, FLCN, FLT3, FLT4, FOXA1, FOXL2, FOXO1, FOXP1, FRS2, FUBP1, FYN, GABRA6, GATA1, GATA2, GATA3, GATA4, GATA6, GEN1, GID4, GLI1, GNA11, GNA13, GNAQ, GNAS, GPC3, GPS2, GREM1, GRIN2A, GRM3, GSK3B, H3F3A, H3F3B, H3F3C, HGF, HIF1A, HIST1H1C, HIST1H2BD, HIST1H3A, HIST1H3B, HIST1H3C, HIST1H3D, HIST1H3E, HIST1H3F, HIST1H3G, HIST1H3H, HIST1H3I, HIST1H3J, HIST2H3C, HIST2H3D, HLA-A, HNF1A, HNRNP, HOXB13, HRAS, HSD17B3, ICOSLG, ID3, IDH1, IDH2, IDO2, IGF1, IGF1R, IGF2, IKBKE, IKZF1, IL7R, IL10, INHBA, INPP4A, INPP4B, INSR, IRF2, IRF4, IRS1, IRS2, JAK1, JAK2, JAK3, KDM5A, KDM5C, KDM6A, KDR, KEAP1, KIF5B, KIT, KLF4, KLHL6, KMT2A, KMT2C, KMT2D, KRAS, LAMP1, LATS1, LATS2, LMO1, LZTR1, MAP2K1, MAP2K2, MAP3K4, MAP3K7, MAP3K13, MAPK3, MAX, MCL1, MDC1, MDM2, MDM4, MECOM, MED12, MEF2B, MEN1, MET, MGA, MITF, MLH1, MPL, MRE11, MSH2, MSH3, MSH6, MTOR, MUTYH, MYB, MYC, MYCL, MYCN, MYD88, MYH9, MYOD1, NBN, NCOA3, NCOR1, NCOR2, NF1, NF2, NFE2L2, NOTCH1, NOTCH2, NOTCH4, NPM1, NRAS, NRG1, NSD1, NSD2, NT5C2, NTRK1, NTRK2, NTRK3, NUP93, OBSL1, PAK1, PAK3, PAK5, PALB2, PAX3, PAX5, PBRM1, PCBP1, PDCD1LG2, PDGFRA, PDGFRB, PDK1, PHF6, PHOX2B, PIK3C2B, PIK3C2G, PIK3C3, PIK3CA, PIK3CB, PIK3CD, PIK3CG, PIK3R1, PIK3R3, PIM1, PLCG1, PLCG2, PLK2, PMAIP1, PML, PMS1, PMS2, PNRC1, POLD1, POLE, POLG, POLQ, POT1, PPARG, PPM1D, PPP2R1A, PPP2R2A, PPP6C, PRDM1, PREX2, PRKAR1A, PRKCI, PARK2, PTCH1, PTEN, PTK2, PTPN11, PTPRD, PTPRS, RAB35, RAC1, RAD21, RAD50, RAD51, RAD51B, RAD51C, RAD51D, RAD54L, RAF1, RASA1, RB1, RBM10, RECQL4, REL, RET, RHEB, RHOA, RICTOR, RIT1, RNF43, ROS1, RPL5, RPS6KA4, RPS6KB1, RPS6KB2, RUNX1, RUNX1T1, SDCCAG8, SDHA, SDHAF2, SDHB, SDHC, SDHD, SETBP1, SETD2, SF3B1, SH2B3, SH2D1A, SLIT2, SLX4, SMAD2, SMAD3, SMAD4, SMARCA4, SMARCB1, SMARCD1, SMARCE1, SMC1A, SMC3, SMO, SNCAIP, SOCS1, SOS1, SOX2, SOX9, SOX10, SPEN, SPOP, SRSF2, STAG1, STAG2, STAT1, STAT3, STAT5A, STAT5B, STAT6, STK11, SUFU, SUZ12, SYNE1, TAF1, TBL1XR1, TCF3, TCF12, FAM46C, TERC, TERT, TET2, TGFB1, TGFB2, TMEM127, TMPRSS2, TNFAIP3, TNFRSF14, TOP2A, TP53, TP63, TRAF2, TRAF3, TRAF7, TSC1, TSC2, TSHR, U2AF1, UGT1A1, VEGFA, VHL, WNK1, WRAP53, WRN, WT1, XBP1, XIAP, XPO1, XRCC2, ZBTB2, ZBTB7A, ZMYM3, ZNF217, ZNF703, ZRSR2

RNA: 16 fusions: ALK, BRAF, EGFR, ERG, FGFR1, FGFR2, FGFR3, FGFR4, MET, NRG1, NTRK1, NTRK2, NTRK3, PPARG, RET, ROS1 **or**

136 fusions: ACVR2A, AKT1, AKT2, AKT3, ALK, AR, ARHGAP26, ARHGAP6, AXL, BCOR, BRAF, BRD3, BRD4, CAMTA1, CCNB3, CCND1, CHMP2A, CIC, CRTCL1, CSF1, CSF1R, CTNNB1, DNAJB1, EGF, EGFR, EPC1, ERBB2, ERBB4, ERG, ESR1, ESRRA, ETV1, ETV4, ETV5, ETV6, EWSR1, FGF1, FGFR1, FGFR2, FGFR3, FGR, FOS, FOSB, FOXO1, FOXO4, FOXR2, FUS, GLI1, GRB7, GREB1, HMG2, IGF1R, INSR, JAK2, JAK3, JAZF1, KANSL1, KIT, KRAS, MAML2, MAP2K1, MAP3K8, MAST1, MAST2, MBTD1, MDM2, MEAF6, MET, MGEA5, MKL2, MN1, MSMB, MUSK, MYB, MYBL1, MYC, MYOD1, NCOA1, NCOA2, NCOA3, NFATC2, NFE2L2, NFIB, NOTCH1, NOTCH2, NR4A3, NRG1, NTRK1, NTRK2, NTRK3, NUMBL, NUTM1, PAX3, PAX8, PDGFB, PDGFD, PDGFRA, PDGFRB, PHF1, PHKB, PIK3CA, PKN1, PLAG1, PPARG, PRDM10, PRKACA, PRKACB, PRKCA, PRKCB, PRKCD, PRKD1, PRKD2, PRKD3, RAD51B, RAF1, REL, RET, ROS1, RSPO2, RSPO3, SS18, SS18L1, STAT6, TAF15, TCF12, TERT, TFE3, TFEB, TFG, THADA, TMPRSS2, USP6, VGLL2, WWTR1, YAP1, YWHA

Total unique genes^a: 556