The MiniSeq™ System. Explore the possibilities.

Discover demonstrated workflows for oncology applications.

illumina®

Let your work flow with Illumina NGS.

The MiniSeq System delivers powerful and cost-effective methods for molecular profiling in a highly accurate benchtop solution. Its convenient and streamlined library-to-results workflow enables rapid sequencing of both DNA and RNA for analysis of a single gene or entire pathways in 1 run. Supported by a full suite of Illumina library preparation solutions, the MiniSeq System features an intuitive, touch-screen user interface, integrated data analysis, and a small footprint. Every aspect is designed for easy, everyday use. Finally, next-generation sequencing (NGS) that fits your budget, your bench, and your research needs.

NGS has transformed the field of cancer research. In the past, iterative tests with technologies that examined only 1 gene at a time exhausted available tissue samples and delayed the analysis of mutations and somatic variants. Now with NGS, researchers can assess multiple genes in a single test, with predefined panels of expert-selected content or custom-tailored panels. NGS is an efficient method for gaining powerful and reliable insights into a range of genes in a single, streamlined workflow. Explore the many demonstrated workflows for oncology applications.

For Research Use Only. Not for use in diagnostic procedures.

Solid tumor profiling | Hematological cancer profiling | Germline testing | Broad molecular profiling

TruSight® Tumor 15

Research common somatic variants in solid tumor samples.

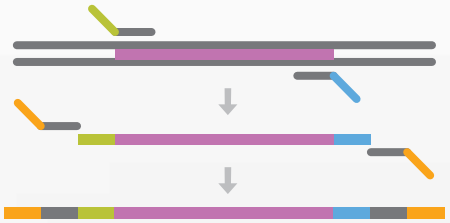
The TruSight Tumor 15 workflow provides a comprehensive assessment of 15 genes that are commonly mutated in solid tumors. It accurately analyzes low-frequency variants from 20 ng of starting DNA and is optimized for formalin-fixed, paraffin-embedded (FFPE) tumor tissue. Featuring a rapid workflow that can be easily integrated into lab procedures, it offers a single assay for accurate, economical, and rapid analysis of solid tumors.

Genes included

AKT1, BRAF, EGFR, ERBB2, FOXL2, GNA11, GNAQ, KIT, KRAS, MET, NRAS, PDGFRA, PIK3CA, RET, TP53

Highlights

- Discover a complete workflow with detailed QC steps and simple, predefined variant report.
- Experience rapid turnaround—3.5 hours of hands-on time; DNA to data in approximately 36 hours.
- Utilize somatic variants selected from relevant industry guidelines, key opinion leaders, and pharmaceutical researchers.
- Achieve accurate somatic variant analysis of 5% allele frequency with as little as 20 ng DNA from FFPE tissue samples.



TruSight Tumor 15 Kit
www.illumina.com/oncologypanel

On System: Local Run Manager—TruSight Tumor 15
On Cloud: BaseSpace® Platform—TruSight Tumor 15
On Site: BaseSpace® Platform—TruSight Tumor 15
www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Solid tumor profiling

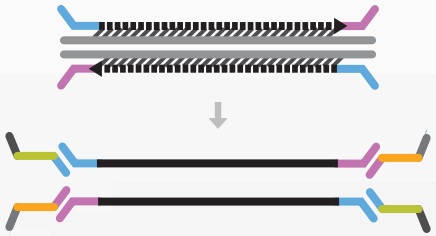
TruSeq® Custom Amplicon Low Input Dual Strand

Screen FFPE samples for variants in custom gene sets.

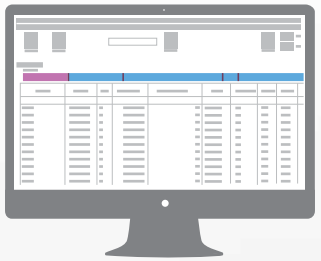
The TruSeq Custom Amplicon Low Input Dual Strand workflow is a valuable extension to the TruSeq Custom Amplicon Low Input Kit. The workflow interrogates each complementary strand with a mirror probe design. This can further enhance the ability to filter actual variants from systemic "noise," providing confidence in variant identification. Overcome sequencing artifacts caused by DNA damage such as deamination from FFPE and oxidation, and sequence context challenges, including repeats and base-read errors.

Highlights

- Experience a completely customizable solution using the DesignStudio™ Tool for your genes and targets of interest.
- Leverage Illumina Concierge for personal design assistance and optimization.
- Achieve accurate variant detection from as little as 20 ng of DNA.
- Sequence up to 1536 amplicons in 2 pool reactions using a simple workflow.
- Rely on a fully supported, optimized workflow solution that includes simple onboard or cloud-based data analysis.



TruSeq Custom Amplicon Low Input Kit
www.illumina.com/ampliconseq



On System: Local Run Manager—Amplicon DS
On Cloud: BaseSpace Platform—Amplicon DS
On Site: BaseSpace Platform—Amplicon DS VariantStudio
www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Solid tumor profiling

TruSight Myeloid

Screen key genes in myeloid malignancies.

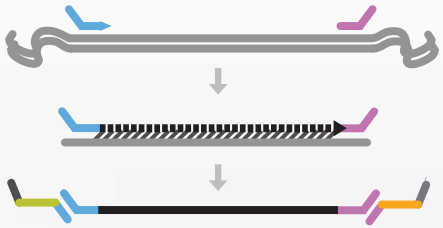
The TruSight Myeloid workflow covers 15 full genes (exons only) and key oncogenic hotspots of 39 additional genes, providing a comprehensive assessment of the key genes involved in myeloid malignancies in a single test. The result is an accurate, cost-effective solution for profiling common myeloid neoplasms.

Genes included

ABL1, ASXL1, ATRX, BCOR, BCORL1, BRAF, CALR, CBL, CBLB, CBLC, CDKN2A, CEBPA, CSF3R, CUX1, DNMT3A, ETV6/TEL, EZH2, FBXW7, FLT3, GATA1, GATA2, GNAS, HRAS, IDH1, IDH2, IKZF1, JAK2, JAK3, KDM6A, KIT, KRAS, MLL, MPL, MYD88, NOTCH1, NPM1, NRAS, PDGFRA, PHF6, PTEN, PTPN11, RAD21, RUNX1, SETBP1, SF3B1, SMC1A, SMC3, SRSF2, STAG2, TET2, TP53, U2AF1, WT1, ZRSR2

Highlights

- Leverage expert consortia-selected content targeting 54 genes mutated frequently in myeloid malignancies.
- Benefit from a single workflow that includes library preparation, sequencing, data analysis, and data annotation.
- Assess multiple genes simultaneously with high accuracy and sensitivity—efficiently and cost effectively.



TruSight Myeloid
www.illumina.com/trusightmyeloid

On System: Local Run Manager—Amplicon
On Cloud: BaseSpace Platform—TruSeq Amplicon
On Site: BaseSpace Platform—TruSeq Amplicon
VariantStudio
www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Hematological cancer profiling

TruSight Cancer

Broadly screen for variants linked to cancer.

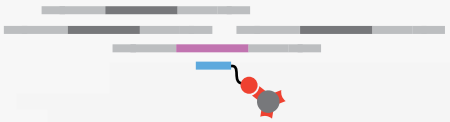
The TruSight Cancer workflow targets 94 genes associated with both common (eg, breast, colorectal) and rare cancers and 284 single nucleotide polymorphisms (SNPs) found to correlate with cancer through genome-wide association studies (GWAS). Conduct comprehensive evaluation of genes that contain genetic variants linked to a predisposition for cancer.

Genes included

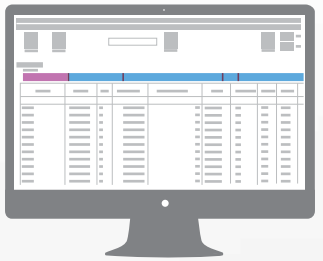
AIP, ALK, APC, ATM, BAP1, BLM, BMPR1A, BRCA1, BRCA2, BRIP1, BUB1B, CDC73, CDH1, CDK4, CDKN1C, CDKN2A, CEBPA, CEP57, CHEK2, CYLD, DDB2, DICER1, DIS3L2, EGFR, EPCAM, ERCC2, ERCC3, ERCC4, ERCC5, EXT1, EXT2, EZH2, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, FANCM, FH, FLCN, GATA2, GPC3, HNF1A, HRAS, KIT, MAX, MEN1, MET, MLH1, MSH2, MSH6, MUTYH, NBN, NF1, NF2, NSD1, PALB2, PHOX2B, PMS1, PMS2, PRF1, PRKAR1A, PTCH1, PTEN, RAD51C, RAD51D, RB1, RECQL4, RET, RHBDF2, RUNX1, SBDS, SDHAF2, SDHB, SDHC, SDHD, SLX4, SMAD4, SMARCB1, STK11, SUFU, TMEM127, TP53, TSC1, TSC2, VHL, WRN, WT1, XPA, XPC

Highlights

- Capture genes associated with a predisposition for cancer with content selected by the Institute of Cancer Research, London.
- Preserve precious samples, achieving data quality with as little as 50 ng of DNA.
- Benefit from a fast, simple workflow compatible with TruSight Rapid Capture Kits that enables library prep and enrichment in 1.5 days.



TruSight Cancer
www.illumina.com/products/trusight_cancer.html



On System: Local Run Manager—DNA Enrichment
On Cloud: BaseSpace Platform—Isaac/BWA Enrichment
On Site: BaseSpace Platform—Isaac/BWA Enrichment
VariantStudio
www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Germline testing

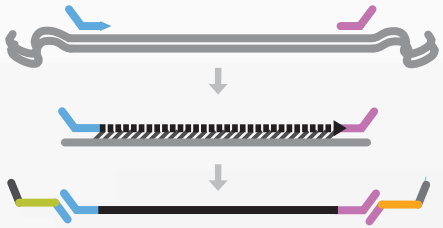
TruSeq Custom Amplicon Low Input

Screen for variants in custom gene sets.

The TruSeq Custom Amplicon Low Input workflow is a highly targeted approach offering unparalleled efficiency in discovering, validating, and screening genetic variants, even from limited and challenging samples, such as FFPE. Interrogate your specific areas of interest with deep sequencing for higher coverage and greater resolution for highly accurate results.

Highlights

- Achieve accurate variant detection from as little as 10 ng of DNA.
- Experience a completely customizable solution using the DesignStudio Tool for your genes and targets of interest.
- Leverage Illumina Concierge for additional design assistance and optimization.
- Sequence up to 1536 amplicons in a single reaction using a simple workflow.
- Rely on a fully supported, optimized workflow solution that includes simple onboard or cloud-based data analysis.



TruSeq Custom Amplicon Low Input
www.illumina.com/ampliconseq

On System: Local Run Manager—Amplicon
On Cloud: BaseSpace Platform—TruSeq Amplicon
On Site: BaseSpace Platform—TruSeq Amplicon
VariantStudio
www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Germline testing

TruSight RNA Pan-Cancer

Screen both solid and hematological cancers.

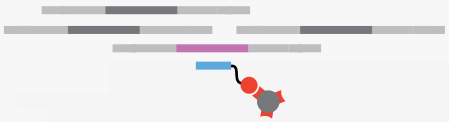
The TruSight RNA Pan-Cancer workflow enables analysis of gene fusions, variants, and gene expression changes in 1385 genes, providing a comprehensive view of the known functionally relevant changes occurring in cancer. It provides a sensitive, reproducible, and economical solution for studies of expression dynamics and functional mechanisms in cancer.

Genes included

ABCC3, ABI1, ABL1, ABL2, ABLIM, ACACA, ACE, ACER, ACKR3, ACSBG1, ACSL3, ACSL6, ACVR1B, ACVR1C, ACVR2A, ADD3, ADM, AFF1, AFF3, AFF4, AGR3, AHCYL1, AHI1, AHR, AHRR, AIP, AK2, AK5, AKAP12, AKAP6, AKAP9, AKR1C3, AKT1, AKT2, AKT, ALDH1A1, ALDH2, ALDOC, ALK, AMER1, AMH, ANGPT1, ANKRD28, ANLN, APC, APH1A, APLP2, APOD. For a complete list, visit www.illumina.com/products/trusight-rna-pan-cancer-panel.

Highlights

- Access gene expression information and fusion discovery with known and novel gene fusion partners.
- Streamline your workflow with an optimized, low-input protocol for a wide range of sample types including FFPE.



TruSight RNA Pan-Cancer

www.illumina.com/products/trusight-rna-pan-cancer-panel.html

On Cloud: BaseSpace Platform—RNA Core
On Site: BaseSpace Platform—RNA Core
VariantStudio

www.illumina.com/basespace

Prepare library → Sequence → Analyze data

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Committed to your success with services, training, and personalized consulting.

Rely on accurate and expedient solutions to match your evolving needs. Whether you are just beginning to evaluate your NGS options, or you are an experienced NGS user looking to access more strategic consulting alternatives, we have services to support you every step of the way.

Our offerings are flexible and customizable to fit your lab's unique needs.

Product care services

- Tiered service plans, plus add-on options
- Compliance and on-demand services to meet your evolving needs

Illumina University training

- Instructor-led training for the entire workflow
- Online courses
- Webinars

Personalized consulting

- Bioinformatics guidance for ease of adoption
- Proof-of-concept services for instrument and library prep testing
- Concierge services for design assistance and product optimization

Cluster generation and sequencing.

MiniSeq System High-Output Kit*

Cycles	Output
300	7.5 Gb
150	3.75 Gb
75	1.875 Gb

MiniSeq System Mid-Output Kit*

Cycles	Output
300	2.4 Gb

Reads passing filter

MiniSeq System High-Output Kit	
Single reads	Up to 25 million
Paired-end reads	Up to 50 million

MiniSeq System Mid-Output Kit	
Single reads	Up to 8 million
Paired-end reads	Up to 16 million

* Install specifications based on the Illumina PhiX Control Library at supported cluster densities (between 129 and 165 k/mm^2 clusters passing filter). Actual performance parameters may vary based on sample type, sample quality, and clusters passing filter. All MiniSeq System library prep kits are paired-end compatible.

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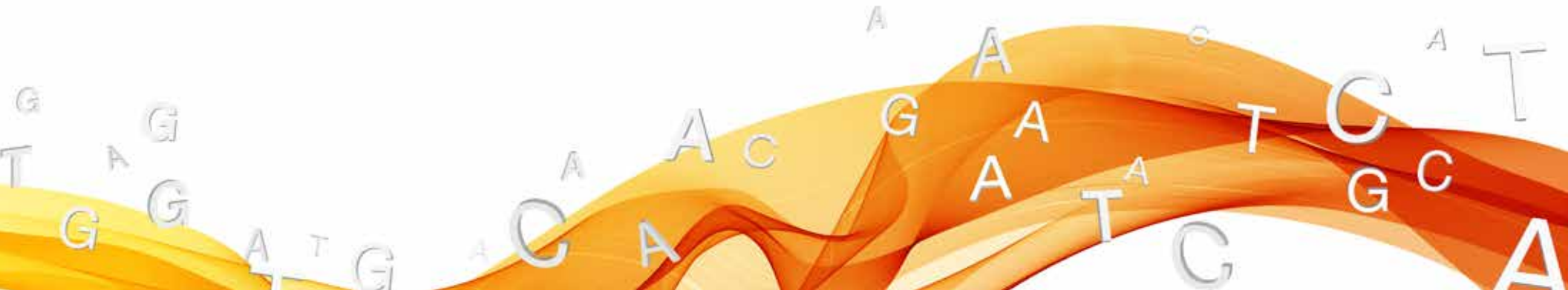

Industry-leading solutions.
A community of support.

From library prep, arrays, and sequencing to informatics, Illumina genomic solutions empower researchers and clinical researchers across the globe to find the answers they seek.

When you join the Illumina community, you become part of a dynamic scientific movement that includes thousands of researchers and industry thought leaders. Throughout the year, we host user group meetings, symposia, consortia, online forums, and other initiatives—all designed to bring the best minds together to share ideas and advance science.

In addition to on-site training, ongoing support, and phone consults, we offer webinars and courses at various Illumina locations. We're here with all the resources you need to accelerate progress.

The MiniSeq System is a small, robust sequencer, perfect for everyday sequencing. Incorporating the latest advancements in sequencing by synthesis (SBS) chemistry, the flexible MiniSeq System features push-button operation and a streamlined library-to-results workflow.

Learn more about the MiniSeq System at **www.illumina.com/miniseq**.

A global genomics leader, Illumina provides complete next-generation sequencing workflow solutions to the basic and translational research communities. Illumina technology is responsible for generating more than 90% of the world's sequencing data.* Through collaborative innovation, Illumina is fueling groundbreaking advancements in the fields of oncology, reproductive health, genetic disease, microbiology, agriculture, and forensic science.

*Data calculations on file. Illumina, Inc., 2015.

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