mission bio

TAPESTRI® PANELS

Mission Bio Tapestri Single-cell DNA Panels and Protein Panels

Uncover Genotypic and Immunophenotypic Insights Simultaneously from Single Cells.

Mission Bio specializes in facilitating the widespread adoption of single-cell DNA and multiomic analysis.

Our technology and solutions services offering is centered around our unique Tapestri Platform, which allows scientists and drug developers to analyze the genomic makeup of individual cells and elicit novel and crucial insights.

Target with Precision

Tapestri® Single-cell DNA Panels and Protein Panels are highly sensitive and customizable panels that enable simultaneous targeted single-cell DNA and protein analysis on the Tapestri® Platform. Whether identifying rare subclones missed by standard bulk sequencing, or identifying co-mutation patterns and zygosity in subclones, Tapestri panels can be applied across a wide range of translational research applications, including hematologic malignancies, solid tumors, genome editing, biomarker discovery and cell and gene therapy.

TAPESTRI SINGLE-CELL APPLICATIONS

- Hematologic malignancies
- Solid tumors
- Genome editing
- Biomarker discovery
- Cell & gene therapy

KEY BENEFITS

- Assess single nucleotide variants (SNV), insertions-deletions (INDEL), focal and genome-wide copy number variants (CNV), loss of heterozygosity (LOH), and translocations from thousands of single cells.
- Pair DNA and protein panels to gain genotypic and immunophenotypic insights simultaneously from single cells
- Leverage the flexibility in experimental design and budget with targeted panels focused on your genes or regions of interest

Choose a Panel Type that Fits your Needs

Tapestri Single-cell DNA Panels are available in ready-to-ship or build-to-order formats. To get your experiments running with minimal time and effort, consider our pre-designed and wet lab-tested Tapestri Single-cell DNA Catalog Panels.

Alternatively, choose from our Tapestri Single-cell DNA Published Panels designed by leading oncology researchers and verified for performance through peer-reviewed publications.

If you require more flexibility, consider our pre-designed but customizable Tapestri Single-cell DNA Virtual Design Panels. For maximum versatility, create a Tapestri Single-cell DNA Custom Panel for human, mouse, or any other reference genome of your choice.

To integrate genotypic and immunnophenotypic data, add a Protein Panel (oligo-conjugated antibodies from BioLegend) into your Tapestri experiments. This approach uncovers combined genotypic and immunophenotypic complexity across thousands of individual cells. To browse all panels or customize your own panel, visit Tapestri Designer (tapestridesigner.com).

DNA	READY-TO-SHIP **Catalog Panels**	– Pre-designed to cover the most commonly implicated genes in various indications – Wet lab-tested – Available in small pack sizes
	READY-TO-SHIP **Published Panels**	– Pre-designed by leading researchers of various indications – Featured in peer-reviewed publications – Available in small pack sizes
	READY-TO-SHIP **Genome-wide CNV Panel**	– Pre-designed CNV panel that uniformly covers nearly the entire genome – Wet lab-tested – Available in small pack sizes
	BUILT-TO-ORDER **Virtual Design Panels**	– In silico-designed panels for an extended range of indications – Starting point for panel customization – Available in large pack sizes
	Custom Panels	– Fully customizable for maximum flexibility – Design a panel for human, mouse or any other custom reference using Tapestri Designer – Available in large pack sizes
PROTEIN	**Protein Panels** (FROM BIOLEGEND)	Order from the list of ready-to-use Totalseq-D antibody cocktails or configure your own from a growing catalog of pre-optimized antibody oligonucleotide conjugates (AOC)

Hematologic Malignancy DNA Panels

Clonal evolution is foundational to disease progression in hematologic malignancies, and can impact therapy response, resistance, and residual disease. Tapestri Single-cell DNA Panels and Protein Panels for research in hematologic malignancies provide unprecedented resolution to understand tumor heterogeneity that drives disease.

FEATURED PANELS

TAPESTRI SINGLE-CELL DNA MULTIPLE MYELOMA PANEL

34 GENES WITH HOTSPOT MUTATIONS

ACTG1	ATM	BRAF	CCND1	CCND3
CDKN1B	CDNK2C	CYLD	DIS3	EGR1
EZH2	FAM46C	FGFR3	IDH1	IDH2
IKZF1	IRF4	KRAS	LTB	MAF
MAX	MYC	NFKBIA	NRAS	PRDM1
PTPN11	RB1	SF3B1	SLAMF7	SP140
TP53	TRAF2	TRAF3	XBP1	—

Driver genes commonly associated with multiple myeloma curated based on consultation with global experts and publications.

13 GENES WITH RESISTANCE MUTATIONS

CD38	CRBN	CUL4B	FCRL5	FRG1
FRMPD3	GPRC5D	NR3C1	OGT	RARA
TNFRSF17	TRAPPC8	UNC13C	—	—

Genes associated with therapy resistance in multiple myeloma curated based on consultation with global experts and publications.

10 GENES WITH FOCAL COPY NUMBER ABERRATIONS

ATM / BIRC2/3 (11q22.3)	CDKN2A/B (9p21.3)	CDKN2C (1p32.3)	EV15 / RPL5 (1p22.1)	FAM46C / TENTS5C (1p12)
GPRC5D / CDKN1B (12p13.1)	MYC (8q24.21)	RB1 (13q14.2)	TNFRSF17 (16p13.13)	TP53 (17p13.1)

Genes with focal CNAs commonly associated with multiple myeloma curated based on consultation with global experts and publications.

V(D)J CLONOTYPE

TARGETS	# of FWD / REV PRIMERS	# OF V/J GENES TARGETED
BCR-IGH	38/5	8 V subgroups (447/450 alleles)
BCR-IGK	15/4	6 J subgroups (13/13 alleles)
BCR-IGL	20/5	7 V subgroups (126/126 alleles)

Forward and reverse primers targeting the CDR3 region of the IgH, IgK, and IgL chains.

"Knowing the clonal architecture and the immunophenotype on a single-cell level … that opens doors to new therapeutic strategies and to figuring out resistance mechanisms and allowing us to hopefully circumvent those."

LINDE MILES, PH.D.
CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER

FEATURED PANELS (CONTINUED)

TAPESTRI SINGLE-CELL DNA MYELOID CLONAL EVOLUTION PUBLISHED PANEL

Designed by the Ross Levine Lab at Memorial Sloan Kettering Cancer Center

32-GENE MYELOID CLONAL EVOLUTION PANEL

ASXL1	DNMT3A	IDH2	NRAS	SETBP1	U2AF1
ATM	ETBP1	JAK2	PHF6	SF3B1	WT1
BRAF	EZH2	KIT	PPM1D	SRSF2	—
CALR	FLT3	KRAS	PTPN11	STAG2	—
CBL	GATA2	MPL	RAD21	TET2	—
CHEK2	IDH1	NPM1	RUNX1	TP53	—

Targets hotspots across 32 genes implicated in myelodysplastic syndromes (MDS), myeloproliferative neoplasms (MPN), and acute myeloid leukemia (AML).

TAPESTRI SCMRD ACUTE MYELOID LEUKEMIA DNA PANEL

41-GENE MRD AML PANEL

ASXL1	GATA1	MYH11	SRSF2
BCOR	GATA2	NF1	STAG2
BRAF	IDH1	NPM1	TET2
CALR	IDH2	NRAS	TP53
CBFB	IL6R*	PHF6	TRPC4*
CBL	IP6K1*	PPM1D	U2AF1
CHEK2	JAK2	PTPN11	UBA1*
CSF1R	KIT	RAD21	WT1
CYP4F3*	KMT2A	RUNX1	ZEB2*
DNMT3A	KRAS	SETBP1	ZRSR2
ETV6	MEIS2*	SF3A1*	—
EZH2	MEN1	SF3B1	—
FLT3	MYC	SMC1A	—

41-hotspot-gene panel for single-cell DNA sequencing curated based on relevant guidelines for AML MRD testing such as the European LeukemiaNet.

*Additional 8 gene targets for sample de-multiplexing.

ALL HEMATOLOGIC MALIGNANCY DNA PANELS

Visit Tapestri Designer to get the gene list and more details.

CATALOG PANELS

- scMRD Acute Myeloid Leukemia
- Multiple Myeloma
- Acute Myeloid Leukemia
- Myeloid
- Genome-wide CNV

PUBLISHED PANELS

- Acute Lymphoblastic Leukemia (Jan Cools, VIB)
- Myeloid Clonal Evolution (Ross Levine, MSKCC)
- Myeloproliferative Neoplasms (Piers Blombery, Peter Mac)
- Myeloid (Koichi Takahashi, MDACC)
- Chronic Lymphocytic Leukemia (Omar Abdel-Wahab, MSKCC)

VIRTUAL DESIGN PANELS

- Acute Lymphoblastic Leukemia
- Chronic Myeloid Leukemia
- Classic Hodgkin's Lymphoma
- Diffuse Large B-Cell Lymphoma
- Follicular Lymphoma
- Mantle Cell Lymphoma
- Myelodysplastic Syndromes
- Myeloproliferative Neoplasms
- T-Cell Lymphoma

Hematologic Malignancy Protein Panels

The linkage of genotype and immunophenotype in individual cells offers the resolution for uncovering unique disease signatures for personalized therapeutics. TotalSeq™-D oligo-conjugated antibodies from BioLegend enable measurement of proteins at a single-cell level and integrate seamlessly into the Tapestri single-cell DNA sequencing workflow to amplify the power of single-cell analysis.

FEATURED PANELS

TOTALSEQ-D HEME ONCOLOGY ANTIBODY COCKTAIL

45-PLEX HEME ONCOLOGY AOC PANEL

CD1c	CD8	CD16	CD34	CD49d	CD71	CD141	IgG1 control
CD2	CD10	CD19	CD38	CD56	CD83	CD163	IgG2a control
CD3	CD11b	CD22	CD44	CD62L	CD90	CD303	IgG2b control
CD4	CD11c	CD25	CD45	CD62P	CD117	CD304	—
CD5	CD13	CD30	CD45A	CD64	CD123	FcεRIα	—
CD7	CD14	CD33	CD45RO	CD69	CD138	HLA-DR	—

Target 42 heme cell surface lineage marker antibodies and 3 negative isotype controls.

TOTALSEQ-D MULTIPLE MYELOMA ANTIBODY COCKTAIL

19-PLEX MULTIPLE MYELOMA AOC PANEL

CD138	CD7
CD38	CD28
CD56	CD81
CD33	CD83
CD117	BCMA
HLA-DR / CD74	FcRH5 / FcRL5 / CD307e
CD19	GPRC5D*
CD22	CD200/OX2
CD45	CD47
CD3	Mouse IgG1

19-plex AOC panel including surface antigen markers for cell type classification and therapeutic target identification for multiple myeloma.

*GPRC5D: Tested by Mission Bio but not included in this panel.

TOTALSEQ-D SCMRD ACUTE MYELOID LEUKEMIA ANTIBODY COCKTAIL

17-PLEX MRD AML AOC PANEL

CD2
CD3
CD7
CD10
CD11b
CD13
CD14
CD19
CD22
CD33
CD34
CD38
CD45RA
CD56
CD123
HLA.DR
CD117

17-plex AOC panel including including AML MRD-specific biomarkers for immunophenotypic characterization.

ALL HEMATOLOGIC MALIGNANCY PROTEIN PANELS

- TotalSeq™-D Heme Oncology Antibody Cocktail
- TotalSeq™-D scMRD Acute Myeloid Leukemia Antibody Cocktail
- TotalSeq™-D Multiple Myeloma Antibody Cocktail

Solid Tumor DNA Panels

Cellular heterogeneity in solid tumor cancers impacts clonal evolution and patient outcomes. Single-cell DNA solid tumor profiling enables high resolution of the genomic diversity in a variety of tumor types.

FEATURED PANELS

TAPESTRI SINGLE-CELL DNA BREAST CANCER RESEARCH PANEL V2

32-HOTSPOT GENES

AKT1	BRCA1	CCND1	CDKN2A	ERBB2	FGFR1	KRAS	MYC	NUP93	RB1	TP53
ARID1	BRCA2	CCNE1	EGFR	ERBB3	GATA3	MAP2K4	NCOR1	PIK3CA	RHOA	TP53BP1
ATM	CBFB	CDH1	EP300	ESR1	JAK1	MAP3K1	NF1	PTEN	SF3B1	—

30-COPY NUMBER VARIANTS

1p	5q	8p	13q	17q	BRCA1	CCNE1	CDKN2A	FGFR1	PTEN
1q	6q	8q	16q	20q	BRCA2	CDK4	EGFR	MYC	RB1
4q	7q	10q	17p	22q	CCND1	CDK6	ERBB2	PIK3CA	TP53

Target 32 hotspot genes and 30 copy number variants and chromosome arm aneuploidies relevant to breast cancer.
No. of amplicons: 369

TAPESTRI SINGLE-CELL DNA GLIOMA RESEARCH PANEL

10-HOTSPOT GENES

ATRX	CIC	IDH1	PIK3R1	RB1
BRAF	EGFR	IDH2	PTEN	TP53

6-COPY NUMBER VARIANTS

1p	7p	7q	10q	19q	MDM2/ CDK4

Target 10 hotspot genes and 6 copy number variants and chromosome arm aneuploidies relevant to glioma.
No. of amplicons: 232

ALL SOLID TUMOR DNA PANELS

Visit Tapestri Designer to get the gene list and more details.

VIRTUAL DESIGN PANELS

- Breast Cancer
- Glioma
- Tumor Hotspot

CATALOG PANELS

- Genome-wide CNV

Genome-wide CNV Panels

Assessing the integrity of the genome is vital for ensuring the safety of gene-edited and stem-cell therapies by avoiding potential oncogenic risks. Genome integrity is also crucial for studying cancer clonal heterogeneity, as it uncovers genomic variations in subclones behind tumor evolution and therapy resistance. Single-cell multiomics enables the assessment of genome-wide CNVs in the same cell across thousands of cells.

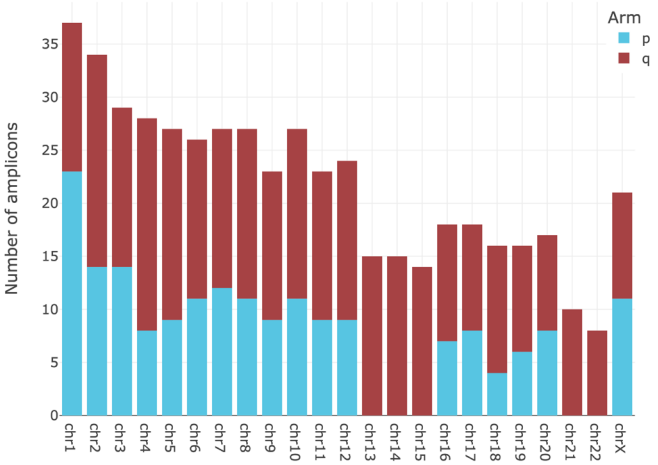
FEATURED PANEL

TAPESTRI SINGLE-CELL DNA GENOME-WIDE CNV PANEL

500-amplicon panel uniformly covering copy number variations (CNV) in nearly the entire human genome to assess genome integrity, including sub-chromosomal deletions and duplications, and whole chromosomal aneuploidy.

AMPLICON DISTRIBUTION PER CHROMOSOME

NUMBER OF AMPLICONS PER CHROMOSOMAL ARM



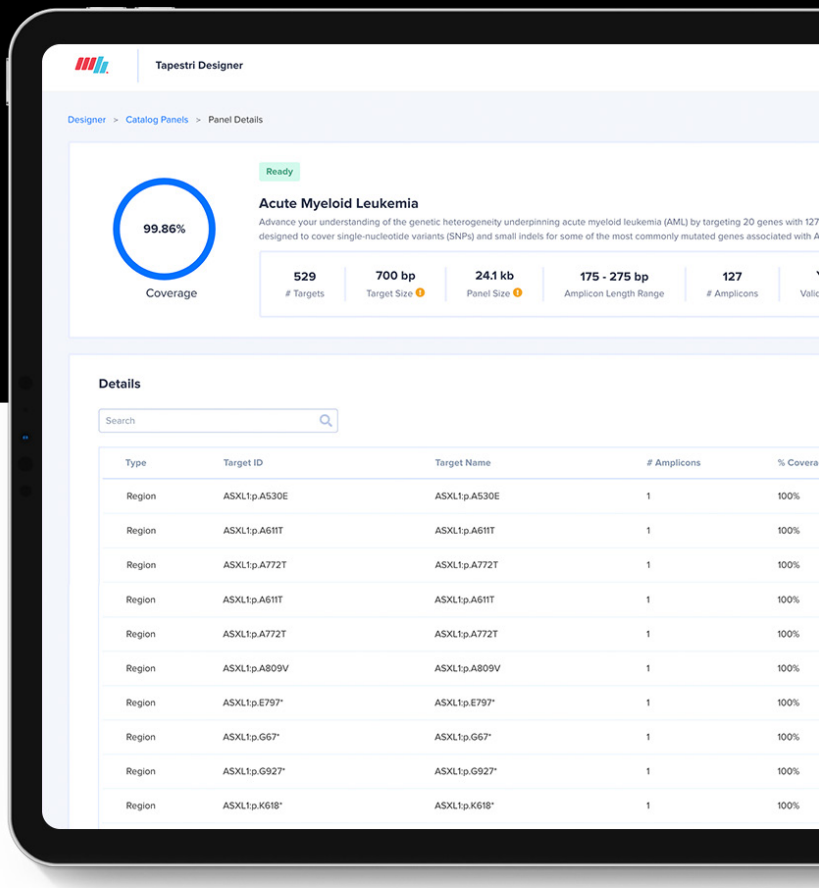
ALL GENOME INTEGRITY PANELS

VIRTUAL DESIGN PANELS

- Human Pluripotent Stem Cell CNV

CATALOG PANELS

- Genome-wide CNV



Custom Panels

For maximum flexibility, use the intuitive Tapestri Designer software to tailor a custom DNA panel to the most relevant genomic regions of heterogeneity for your research. Primer design algorithms and multiplex PCR biochemistry have been optimized for the Tapestri Platform, so you can be confident of high design coverage and high panel uniformity. Panels can be designed against human, mouse or any other custom reference genomes of your choice.

Inquire about custom oligo-conjugated antibodies for concurrent measurement of proteins.

The Tapestri Single-cell Multiomics Workflow

The Tapestri Platform provides an end-to-end solution that seamlessly plugs in to your existing next-generation sequencing (NGS) workflow.

Use the Tapestri instrument, reagents and consumables up-front of your NGS system and then Tapestri Pipeline software for data analysis and visualization.

TARGET SELECTION	SAMPLE PREP	LIBRARY PREP	SEQUENCING	PIPELINE	ANALYSIS
CHOOSE A PRE-DESIGNED OR CUSTOM DNA PANEL	ADD A PROTEIN PANEL AND SIMPLE CELL STAINING PROTOCOL	SINGLE WORKFLOW COMBINES DNA AND PROTEIN PANELS	SINGLE SEQUENCING RUN FOR MULTIOMICS SINGLE-CELL DATA	INTEGRATED PIPELINE FOR MULTIOMICS ANALYSIS	POWERFUL ANALYSIS AND VISUALIZATION SOFTWARE

*Optional sample multiplexing by antibody hashing or genotyping

PANEL TYPE	PANEL	PART NUMBER
Catalog	Tapestri Single-cell DNA Genome-Wide CNV Panel	MB03-0119
	Tapestri scMRD Acute Myeloid Leukemia DNA Panel v2	MB03-0126
	Tapestri Single-cell DNA Multiple Myeloma Panel	MB03-0118
	Tapestri Single-cell DNA AML Oligo Pool	MB03-0035
	Tapestri Single-cell DNA Myeloid Oligo Pool	MB03-0036
Published	Tapestri Single-cell DNA Acute Lymphoblastic Leukemia Published Panel (Jan Cools, VIB)	MB03-0056
	Tapestri Single-cell DNA Myeloproliferative Neoplasms Published Panel (Piers Blombery, Peter Mac)	MB03-0057
	Tapestri Single-cell DNA Myeloid Clonal Evolution Published Panel (Ross Levine, MSKCC)	MB03-0058
	Tapestri Single-cell DNA Myeloid Published Panel (Koichi Takahashi, MDACC)	MB03-0072
	Tapestri Single-cell DNA Chronic Lymphocytic Leukemia Published Panel (Omar Abdel-Wahab, MSKCC)	MB03-0080
Virtual Design	Tapestri Single-cell DNA Human Pluripotent Stem Cell CNV Panel	MB03-0127
	Tapestri Single-cell DNA Acute Lymphoblastic Leukemia Panel	MB03-0041
	Tapestri Single-cell DNA Chronic Myeloid Leukemia Panel	MB03-0039
	Tapestri Single-cell DNA Classic Hodgkin's Lymphoma Panel	MB03-0039
	Tapestri Single-cell DNA Diffuse Large B-Cell Lymphoma Panel	MB03-0040
	Tapestri Single-cell DNA Follicular Lymphoma Panel	MB03-0039
	Tapestri Single-cell DNA Mantle Cell Lymphoma Panel	MB03-0039

PANEL TYPE	PANEL	PART NUMBER
Virtual Design	Tapestri Single-cell DNA Mitochondrial Panel	MB03-0039
	Tapestri Single-cell DNA Myelodysplastic Syndromes Panel	MB03-0040
	Tapestri Single-cell DNA Myeloproliferative Neoplasms Panel	MB03-0040
	Tapestri Single-cell DNA T-Cell Lymphoma Panel	MB03-0040
	Tapestri Single-cell DNA Breast Cancer Research Panel (16 samples)	MB03-0070
	Tapestri Single-cell DNA Breast Cancer Research Panel (8 samples)	MB03-0071
	Tapestri Single-cell DNA Glioma Research Panel	MB03-0074
	Tapestri Single-cell DNA Tumor Hotspot Research Panel	MB03-0116
Custom	Tapestri Single-cell DNA Custom Panels	missionbio.com/panels/custom-panels
Protein	TotalSeq-D Heme Oncology Panel	Purchase from BioLegend
	TotalSeq-D scMRD Acute Myeloid Leukemia Antibody Cocktail	MB03-0105
	TotalSeq-D Multiple Myeloma Antibody Cocktail	MB03-0121

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CONTACT US TO LEARN MORE

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Brochure_MissionBio_Tapestri_Platform_RevK