

# Illumina DNA Prep with Enrichment

## Consumables & Equipment

### Consumables

Consumable	Supplier
1.7 ml microcentrifuge tubes	General lab supplier
10 µl pipette tips	General lab supplier
10 µl multichannel pipettes	General lab supplier
10 µl single channel pipettes	General lab supplier
20 µl pipette tips	General lab supplier
20 µl multichannel pipettes	General lab supplier
20 µl single channel pipettes	General lab supplier
200 µl pipette tips	General lab supplier
200 µl single channel pipettes	General lab supplier
200 µl multichannel pipettes	General lab supplier
1000 µl pipette tips	General lab supplier
1000 µl single channel pipettes	General lab supplier
96-well 0.8 ml Polypropylene Deepwell Storage Plate (MIDI plate)	Thermo Fisher Scientific, part # AB-0859
Conical centrifuge tubes (15 ml or 50 ml)	General lab supplier
Distilled water	General lab supplier
Eppendorf™ twin.tec™ 96 Well LoBind PCR Plates, Skirted (or similar)	Eppendorf, catalog # 0030129512
Hard-Shell 96-well PCR plates	Bio-Rad, catalog # HSP-9601
Microseal 'B' adhesive seals	Bio-Rad, catalog # MSB-1001
Microseal 'F' foil seals	Bio-Rad, catalog # MSF-1001
RNase/DNase-free 8-tube strips and caps, 0.2 ml	General lab supplier
RNase/DNase-free multichannel reagent reservoirs, disposable	VWR, catalog # 89094-658

# Illumina DNA Prep with Enrichment Consumables & Equipment

Consumable	Supplier
Ethanol 200 proof (absolute) for molecular biology (500 ml)	Sigma-Aldrich, product # E7023
Nuclease-free water	General lab supplier
Illumina Purification Beads (IPB)	Illumina, 1 x 100 ml, catalog # 20060057 Illumina, 4 x 100 ml, catalog # 20060058
Qubit dsDNA BR Assay Kit	Thermo Fisher Scientific, catalog # Q32850 or Q32853
Qubit Assay Tubes	Thermo Fisher Scientific, catalog # Q32856
One of the following kits, depending on quantification method: <ul style="list-style-type: none"><li>• [Fragment Analyzer] High Sensitivity NGS Fragment Analysis Kit</li><li>• [Bioanalyzer] Agilent DNA 1000 Kit (2)</li><li>• [Bioanalyzer] Agilent High Sensitivity DNA Kit (2)</li></ul>	One of the following suppliers, depending on instrument: <ul style="list-style-type: none"><li>• Advanced Analytical, catalog # DNF-474</li><li>• Agilent, catalog # 5067-1504</li><li>• Agilent, catalog # 5067-4626</li></ul>
Tris-HCl 10 mM, pH 8.5	General lab supplier

## Consumables for Plate Workflow

Consumable	Supplier
96-well 0.8 ml Polypropylene Deepwell Storage (MIDI plate)	Thermo Fisher Scientific, part # AB-0859
Adhesive seal roller	General lab supplier
Hard-Shell 96-well PCR Plates	Bio-Rad, part # HSP-9601
Microseal 'B' adhesive seals	Bio-Rad, part # MSB-1001
Microseal 'F' foil seals	Bio-Rad, part # MSF-1001

## Consumables for Tube Workflow

Consumable	Supplier
RNase/DNase-free 8-tube strips and caps	General lab supplier
1.5 ml microcentrifuge tubes	General lab supplier

# Illumina DNA Prep with Enrichment Consumables & Equipment

## Consumables for Blood and Saliva Input

Consumable	Supplier
Illumina Purification Beads (IPB)	Illumina, 1 x 100 ml, catalog # 20060057 Illumina, 4 x 100 ml, catalog # 20060058
[Blood] Flex Lysis Reagent Kit	Illumina, catalog # 20015884
[Blood] EDTA Blood Collection tubes	
[Saliva] Oragene DNA Collection Kit for Saliva	

## Consumables for FFPE Input

Consumable	Supplier
KAPA qPCR Master Mix (Universal) and Primer Premix	KAPA Biosystems, catalog # KK4923- 07960441001
Qiagen AllPrep DNA/RNA FFPE Kit	Qiagen, Catalog # 80234
Infinium FFPE QC Kit	Illumina, catalog # WG-321-1001
qPCR plates compatible with your sequencing system	General lab supplier

# Equipment

Equipment	Supplier/Description
Basic lab equipment: safety glasses, lab coats, powder-free protective gloves, stopwatch, or timer, ice bucket	
One of the following thermal cyclers: <ul style="list-style-type: none"><li>Bio-Rad C1000 Touch™ Thermal Cycler with 96-Deep Well Reaction Module</li><li>Bio-Rad DNA Engine Tetrad 2</li></ul>	Bio-Rad, part # <ul style="list-style-type: none"><li>1851197</li><li>PTC-0240G*</li></ul> *No longer available for purchase.
Magnetic Stand-96	Thermo Fisher Scientific, catalog # AM10027
Microcentrifuge	General lab supplier
Microplate centrifuge	General lab supplier

# Illumina DNA Prep with Enrichment Consumables & Equipment

Equipment	Supplier/Description
Microheating System-Hybex System for Illumina	SciGene, catalog # <ul style="list-style-type: none"> <li>• 1057-30-0 (115 V) or</li> <li>• 1057-30-2 (230 V)</li> </ul>
MIDI Heat Block Insert for SciGene Hybex System	Illumina, catalog # BD-60-601
Qubit Fluorometer 3.0	Thermo Fisher Scientific, catalog # Q33216 or Q33217
Vortexer	General lab supplier
One of the following analyzers: Advanced Analytical: <ul style="list-style-type: none"> <li>• Fragment Analyzer™</li> </ul> Agilent Technologies: <ul style="list-style-type: none"> <li>• 2100 Bioanalyzer Desktop System</li> </ul>	Advanced Analytical, refer to web product pages for catalog numbers Agilent Technologies: <ul style="list-style-type: none"> <li>• Part # G2940CA</li> </ul>
[Saliva] Water or air incubator capable of reaching 50°C	Refer to DNA Genotek product pages
[FFPE] Bio-Rad CFX96 Touch Real-Time PCR Detection System or similar qPCR system for FFPE Qualification	Bio-Rad, part # 1855196
[Optional] Vacuum concentrator Note: Use when concentrating a pooled library.	General lab supplier

# Illumina DNA Prep with Enrichment Consumables & Equipment

## Equipment for Tube Workflow

Equipment	Supplier
MagneSphere® Technology Magnetic Separation Stands (12 position, 1.5 ml)	Promega, catalog # Z5342

## Equipment for Plate Workflow

Equipment	Supplier
Magnetic Stand-96	Thermo Fisher Scientific, catalog # AM10027
High-Speed Microplate Shaker	BioShake iQ High-Speed Thermal Mixer <ul style="list-style-type: none"><li>Q Instruments, model # 1808-0506</li></ul> BioShake XP High-Speed Thermal Mixer <ul style="list-style-type: none"><li>Q Instruments, model # 1808-0505</li></ul>
Microplate centrifuge	General lab supplier

## Thermal Cyclers

Thermal Cycler	Temp Mode	Lid Temp	Vessel Type
Bio-Rad C1000 Touch™ Thermal Cycler with 96-Deep Well Reaction Module (part # 1851197)	Calculated	Heated	Plate
Bio-Rad DNA Engine Tetrad 2 (part # PTC-0240G)	Calculated	Heated, Constant at 100°C	Polypropylene plates and tubes

# Kit Contents

Completing the Illumina DNA Prep with Enrichment protocol requires library prep and enrichment reagents, an enrichment probe panel, and index adapters, which are all included in the full kits listed. The number of index adapters required depends on the number of samples to be uniquely indexed for your experiment. Depending on the sample input type and sequencing requirements, the protocol might require additional, optional consumables.

# Illumina DNA Prep with Enrichment Consumables & Equipment



Component	Kit Options	Illumina Catalog #
Library prep and enrichment reagents <sup>1</sup>	Illumina DNA Prep with Enrichment - (S) Tagmentation, 16 Samples	20025523
	Illumina DNA Prep with Enrichment - (S) Tagmentation, 96 Samples	20025524
[Optional] Library prep only reagents	Illumina DNA Prep - (S) Tagmentation, 16 Samples	20025519
Use for enrichment plexities between 1-plex and 12-plex.	Illumina DNA Prep - (S) Tagmentation, 96 Samples	20025520
Enrichment probe panel Alternatively, use a third-party probe panel that meets specifications.	Illumina Exome Panel (8 Enrichment Reactions) (CEX)	20020183
	TruSight One (6 Enrichment Reactions) (TOO)	20029227
	TruSight One Expanded (6 Enrichment Reactions) (TOE)	20029226
	TruSight Cancer (8 Enrichment Reactions)	FC-121-0202
	TruSight Hereditary Cancer (8 Enrichment Reactions)	20029551
	TruSight Cardio (8 Enrichment Reactions)	20029229
	TruSeq Neurodegeneration (8 Enrichment Reactions)	20029550
	Illumina Custom Enrichment Panel via DesignStudio (8 Enrichment Reactions)	20025371
Index adapters	IDT for Illumina DNA/RNA UD Indexes Set A, Tagmentation (96 Indexes, 96 Samples)	20027213
	IDT for Illumina DNA/RNA UD Indexes Set B, Tagmentation (96 Indexes, 96 Samples)	20027214
	IDT for Illumina DNA/RNA UD Indexes Set C, Tagmentation (96 Indexes, 96 Samples)	20042666
	IDT for Illumina DNA/RNA UD Indexes Set D, Tagmentation (96 Indexes, 96 Samples)	20042667
	IDT for Illumina Nextera DNA UD Indexes Set C (96 Indexes, 96 Samples)	20027215
	IDT for Illumina Nextera DNA UD Indexes Set D (96 Indexes, 96 Samples)	20027216
	IDT for Illumina Nextera DNA UD Indexes Sets A–D (384 Indexes, 384 Samples)	20027217

# Illumina DNA Prep with Enrichment Consumables & Equipment

Component	Kit Options	Illumina Catalog #
[Optional] FFPE QC <sup>2</sup>	Infinium FFPE QC Kit (384 reactions)	WG-321-1001
[Optional] Blood lysis <sup>3</sup>	Flex Lysis Reagent Kit (96 samples)	20018706
[Optional] Additional reagents	Illumina Adapter Blocking Reagents (12 reactions)	20024144
	Illumina Adapter Blocking Reagents (48 reactions)	20024145

<sup>1</sup> Illumina DNA Prep with Enrichment Reagents must be ordered with Illumina DNA Prep - (S) Tagmentation Library Prep Reagents.

<sup>2</sup> Required when starting the protocol from extracted FFPE.

<sup>3</sup> Required when starting the protocol from fresh whole blood samples and not purified blood gDNA.

# Illumina DNA Prep - (S) Tagmentation Contents

## Illumina DNA/RNA Prep - Tagmentation Buffers, Store at 15°C to 30°C

The buffers are shipped at 2°C to 8°C. Promptly store reagents at the indicated temperature to ensure proper performance.

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
1	4	ST2	Stop Tagment Buffer 2	Red
1	1	TWB	Tagment Wash Buffer	Clear

## Illumina DNA Prep - Tagmentation (S) Beads, Store at 2°C to 8°C

Store the eBLT stock tube upright in the buffer.

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
1	4	eBLT	Enrichment BLT	Yellow
1	2	RSB	Resuspension Buffer	Clear

**i** | Illumina Purification Beads (IPB) are not included in this kit and must be purchased separately.

## Illumina DNA/RNA Prep - Tagmentation PCR Reagents, Store at -25°C to -15°C

The following reagents are shipped at 2°C to 8°C. Promptly store reagents at the indicated temperature to ensure proper performance.

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
1	4	TB1	Tagmentation Buffer 1	Clear
2	4	EPM	Enhanced PCR Mix	Clear



# Illumina DNA Prep with Enrichment - (S) Tagmentation Contents

## Illumina DNA Fast Hyb - Enrichment Beads + Buffers, Store at 2°C to 8°C

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
4	2	SMB3	Streptavidin Magnetic Beads	Clear
1	1	RSB	Resuspension Buffer	Clear
1	1	EHB2	Enrich Hyb Buffer 2	Clear
1	1	ET2	Elute Target Buffer 2	Clear

**i** | Illumina Purification Beads (IPB) are not included in this kit and must be purchased separately.

## Illumina DNA Fast Hyb - Enrichment PCR + Buffers, Store at -25°C to -15°C

The following reagents are shipped at 2°C to 8°C. Promptly store reagents at the indicated temperature to ensure proper performance.

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
1	1	EE1	Enrichment Elution Buffer 1	Clear
4	4	EEW	Enhanced Enrichment Wash	Amber
1	1	PPC	PCR Primer Cocktail	Clear
1	1	HP3	2 N NaOH	Clear
2	1	NHB2	Hyb Buffer 2 + IDT NXT Blockers	Blue
2	1	EPM	Enhanced PCR Mix	Clear

## Illumina DNA Fast Hyb - Enrichment PCR + Buffers, Store at -25°C to -15°C

The following reagents are shipped at 2°C to 8°C. Promptly store reagents at the indicated temperature to ensure proper performance.

Tube Quantity		Acronym	Reagent Name	Tube Cap Color
16 Samples	96 Samples			
1	1	EE1	Enrichment Elution Buffer 1	Clear
4	4	EEW	Enhanced Enrichment Wash	Amber
1	1	PPC	PCR Primer Cocktail	Clear
1	1	HP3	2 N NaOH	Clear
2	1	NHB2	Hyb Buffer 2 + IDT NXT Blockers	Blue
2	1	EPM	Enhanced PCR Mix	Clear

## IDT for Illumina DNA/RNA UD Indexes, Store at -25°C to -15°C

For index adapter sequences, refer to *Illumina Adapter Sequences (document # 1000000002694)*.

Description
IDT for Illumina DNA/RNA UD Indexes Set A, Tagmentation (96 Indexes, 96 Samples)
IDT for Illumina DNA/RNA UD Indexes Set B, Tagmentation (96 Indexes, 96 Samples)
IDT for Illumina DNA/RNA UD Indexes Set C, Tagmentation (96 Indexes, 96 Samples)
IDT for Illumina DNA/RNA UD Indexes Set D, Tagmentation (96 Indexes, 96 Samples)

## IDT for Illumina Nextera DNA UD Indexes, Store at -25°C to -15°C

For index adapter sequences, refer to *Illumina Adapter Sequences (document # 1000000002694)*.

Description
IDT for Illumina Nextera DNA UD Indexes Set C (96 Indexes, 96 Samples)
IDT for Illumina Nextera DNA UD Indexes Set D (96 Indexes, 96 Samples)

## [Optional] Infinium FFPE QC Kit, Store at -25°C to -15°C

Quantity	Acronym	Reagent Name	Tube Cap Color
1	QCP	QC Primer Reagent	Clear
1	QCT	QC Template Reagent	Clear

## [Optional] Flex Lysis Reagent Kit

The following reagents are shipped at -25°C to -15°C. Promptly store reagents at the indicated tube temperature.

Quantity	Acronym	Reagent Name	Tube Cap Color	Storage Temperature
4	BLB	Blood Lysis Buffer	Clear	15°C to 30°C
4	PK1	Proteinase K	Clear	-25°C to -15°C

## Signatures

<b>FAS/FSE</b>	<b>Customer</b>
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