

HyperCap Products and Workflow

Fully integrated sample prep solution

STREAMLINED WORKFLOW

HyperCap Products and Workflow create a streamlined, automation-friendly solution that integrates Roche's high efficiency KAPA DNA library preparation kits with SeqCap EZ (Exome and Custom) target enrichment probes. The HyperCap Workflow v2.0, which also includes KAPA Dual-Indexed (96) Adapters and Roche's Universal Blocking Oligos, allows users to input a variety of sample amounts and sample types.

Benefits

- Convenient and seamless target enrichment workflow for a fully integrated sample prep solution
- Easy-to-use and less complex workflow enabled by Roche Universal Blocking Oligos (UBOs) complexities
- Supporting high-throughput workflows through qualified automation capabilities and validated KAPA Dual-Indexed (96) Adapters
- Customizable for a variety of sample types and starting input amounts
- Single vendor ordering process with streamlined service and support

Introducing the HyperCap Workflow v2.0

The HyperCap Workflow uses many of the same reagents as existing Roche target enrichment workflows, but with two notable improvements:

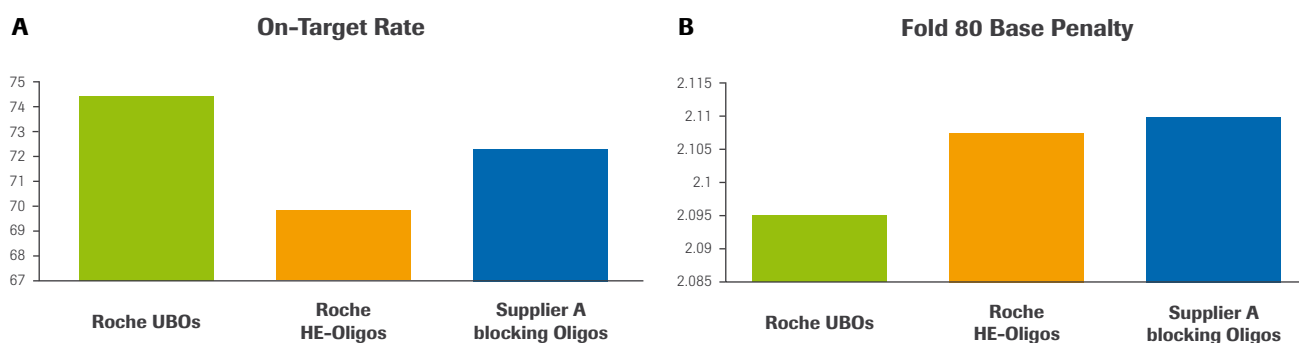
- **UBOs:** Eliminates the need for adapter-matched blocking oligos, which reduces hands-on time and complexity
- **Validation with KAPA Dual-Indexed (96) Adapters:** Enables greater multiplexing by utilizing up to 96 sample barcodes



#	Step	SeqCap EZ v5.1	HyperCap v1.0	HyperCap v2.0
1	Library construction chemistry	KAPA HTP/LTP Kit	KAPA HyperPrep or HyperPlus Kit	KAPA HyperPrep or HyperPlus Kit; SeqCap Adapter A/B Kits, KAPA Dual-Indexed (96) Adapters
2	DNA binding to SPRI beads (cleanups)	15 min	5 min	5 min
3	Hybridization setup	Dry-down	Bead-based	Bead-based; UBO
4	Volume of capture beads	100 µL	50 µL	50 µL
5	Vortex during capture	Yes	No	No
6	Bead capture time	45 min	15 min	15 min
7	Bead wash volume (tube)	200 µL (1.5 mL tube)	200 µL (PCR tube/plate)	200 µL (PCR tube/plate)
8	Bead wash parameters	Vortex mixer and water bath needed	No vortex or water bath required	No prolonged vortex or water bath required
9	Post-capture LM-PCR	2 x 50 µL reactions, 14 cycles	Single 50 µL reaction, 14 cycles	Single 50 µL reaction, 14 cycles

Feel the difference with Roche UBOs

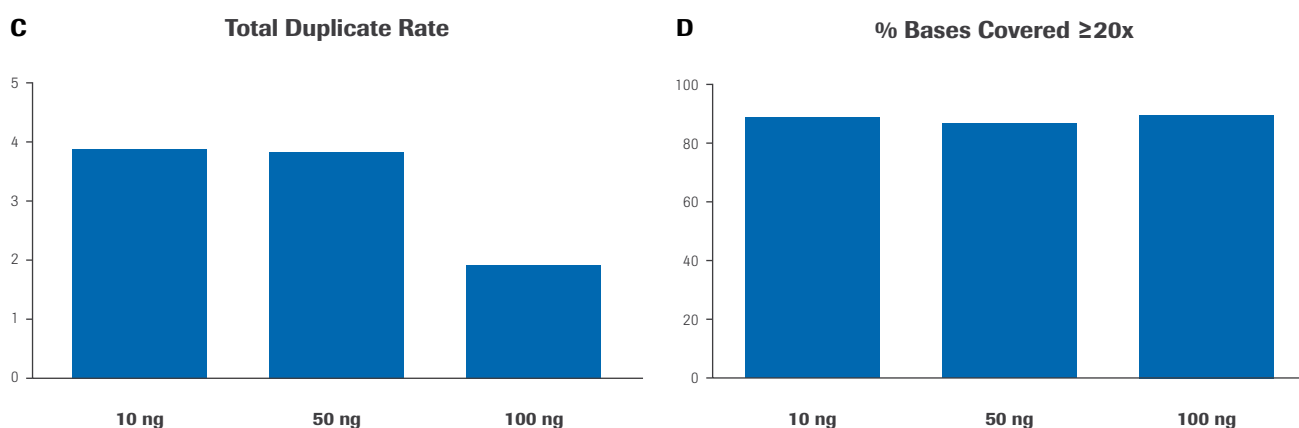
- Roche's UBO Kit can be used to block 6- and 8-base barcoded adapters, and is amenable for single- or dual-indexing strategies
- Roche UBOs demonstrated equal or better performance than Supplier A's blocking oligos while maintaining uniformity of capture



Performance metrics comparing Roche UBOs, Roche HE-Oligos and Supplier A's blocking Oligos using Coriell samples with the SeqCap EZ Human Oncology Panel, KAPA HyperPrep Kit KAPA Dual-Indexed (96) Adapters and the HyperCap Workflow v2.0.

Customizable for your sample needs

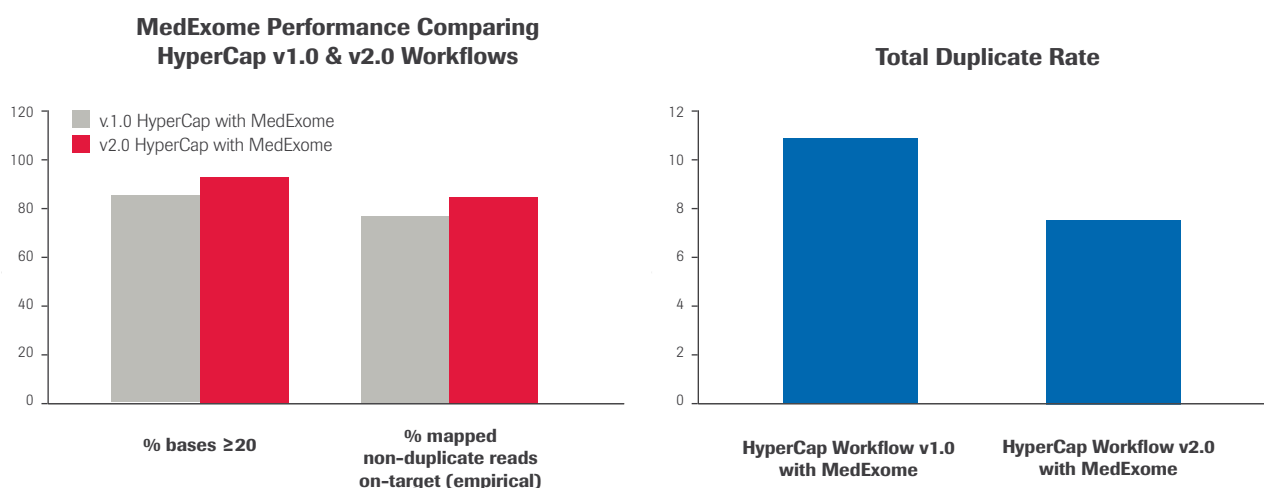
- Validated with KAPA HyperPrep and HyperPlus kits
- KAPA HyperPlus Kits provide higher efficiency in library prep process when using lower input amounts
- Higher coverage is obtained with low duplicate rates **(C) (D)**



Performance metrics using libraries prepared with 10 ng, 50 ng and 100 ng DNA input with Coriell samples using the SeqCap EZ Human Oncology Panel and the KAPA HyperPlus Kit.

Enhanced performance of MedExome with HyperCap Workflow v2.0

- Higher % base coverage at >20x depth with the HyperCap Workflow v2.0 compared to HyperCap Workflow v1.0
- Higher on-target read rate and lower total duplicate rate with the HyperCap Workflow v2.0 compared to HyperCap Workflow v1.0 (as shown below)



Performance metrics for a Coriell sample using SeqCap EZ MedExome Probes with the KAPA HyperPlus Kit and the HyperCap Workflow v1.0 & v2.0.

HyperCap Workflow v2.0 product offering

The HyperCap Workflow v2.0 enables customers to obtain all library prep and enrichment reagents and support from a single vendor.

Workflow step	Product	Pack sizes
Library Prep	KAPA HyperPrep Kit KAPA HyperPlus Kit <i>High efficiency library prep using mechanical or enzymatic shearing</i>	8,24 and 96 reactions
Enrichment Reagents	HyperCap Target Enrichment Kit <i>Reagents for hybridization, wash, and amplification steps, including universal blocking oligo</i>	24 and 96 reactions
Adapters	SeqCap Adapter Kit A and B <i>Barcoded adapters for multiplexed sequencing.</i> KAPA DI Adapters are validated for the HyperCap v2.0 workflow, offering up to 96 unique sample barcodes.	Multiple
Beads	HyperCap Bead Kit <i>Capture and selection/purification beads</i>	24 and 96 reactions
Probes	SeqCap EZ Probes <i>Catalog or custom EZ probe pools</i>	4 - 960 reactions

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Published by:

Roche Sequencing Solutions, Inc.
4300 Hacienda Drive
Pleasanton, CA 94588

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Data on file.

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SEQ100025 A071 10/17