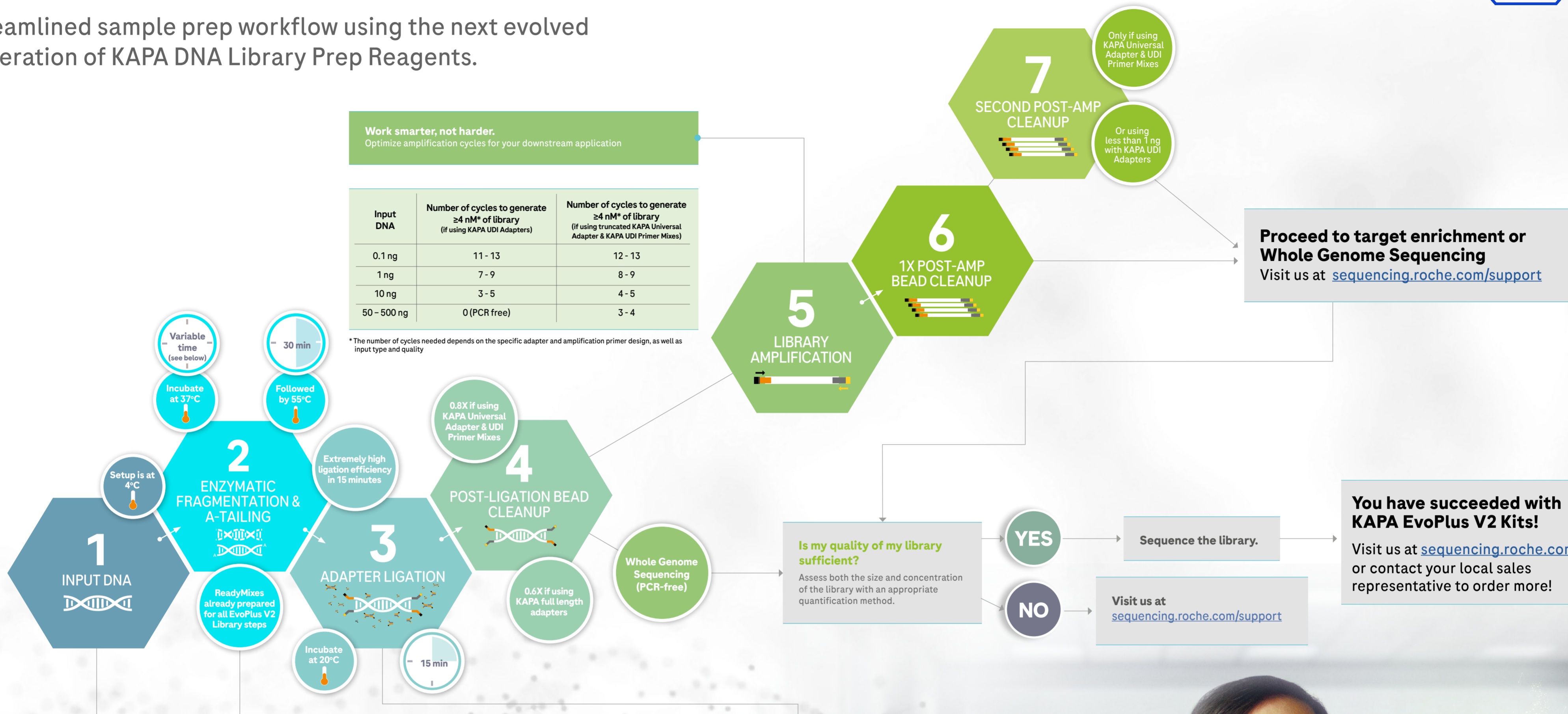


KAPA EvoPlus V2 Kits Guide to Success



Streamlined sample prep workflow using the next evolved generation of KAPA DNA Library Prep Reagents.



Work smarter, not harder.
Optimize amplification cycles for your downstream application

| Input DNA | Number of cycles to generate ≥ 4 nM* of library (if using KAPA UDI Adapters) | Number of cycles to generate ≥ 4 nM* of library (if using truncated KAPA Universal Adapter & KAPA UDI Primer Mixes) |
|-------------|---|--|
| 0.1 ng | 11 - 13 | 12 - 13 |
| 1 ng | 7 - 9 | 8 - 9 |
| 10 ng | 3 - 5 | 4 - 5 |
| 50 - 500 ng | 0 (PCR free) | 3 - 4 |

*The number of cycles needed depends on the specific adapter and amplification primer design, as well as input type and quality

How much DNA do I need? Setup is at 4°C

| Application | Sample type | Input |
|---------------------|------------------------------|--|
| WGS | High quality gDNA | 0.1 ng - 500 ng |
| | Low quality FFPE-derived DNA | ≥ 50 ng* |
| WGS (PCR-free) | High quality gDNA | ≥ 50 ng (no-SS)** 500 ng (with SS)** |
| Targeted Sequencing | High quality gDNA | 100 ng |
| | Low quality FFPE-derived DNA | 10 ng - 50 ng |

*Reach out to Technical Support for possible workflow modifications when using this sample type.
**SS = double-sided size selection; a requirement when performing WGS on patterned flow cells but may result in sample losses of 60 - 95%, irrespective of whether a bead- or gel-based technique is used. For PCR-free workflows, due to the inherent sample losses, performing double-sided size selection with inputs <500 ng (into library prep) is not recommended.

Get to chopping.

- Mode and size distribution of DNA is controlled by fragmentation time and temperature.
- Try a range of fragmentation times to determine optimal insert size.

| Estimated Insert Size* | Fragmentation time at 37°C |
|------------------------|----------------------------|
| 180 bp | 5 min |
| 200 bp | 10 min |
| 250 bp | 15 min |
| 300 bp | 20 min |
| 450 bp | 25 min |
| 500 bp | 30 min |

*Insert sizes (without adapter) observed upon fragmentation of 100 ng of high quality human DNA12878 (Coriell Institute of Biomedical Research). Size variation may be observed, depending on DNA type, DNA input and DNA elution buffers. We recommend optimizing the fragmentation time with a non-precious sample.

How much adapter do I need?

Adapter concentration affects ligation efficiency, as well as adapter and adapter-dimer carry-over during the post-ligation cleanup.

| Input DNA | Recommended KAPA UDI Adapter stock concentration | Recommended KAPA Universal Adapter stock concentration |
|--------------|--|--|
| 0.1 ng | 0.6 μ M | 0.6 μ M |
| 1 ng | | |
| 10 ng | 6 μ M | 15 μ M |
| ≥ 10 ng | 15 μ M | |



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