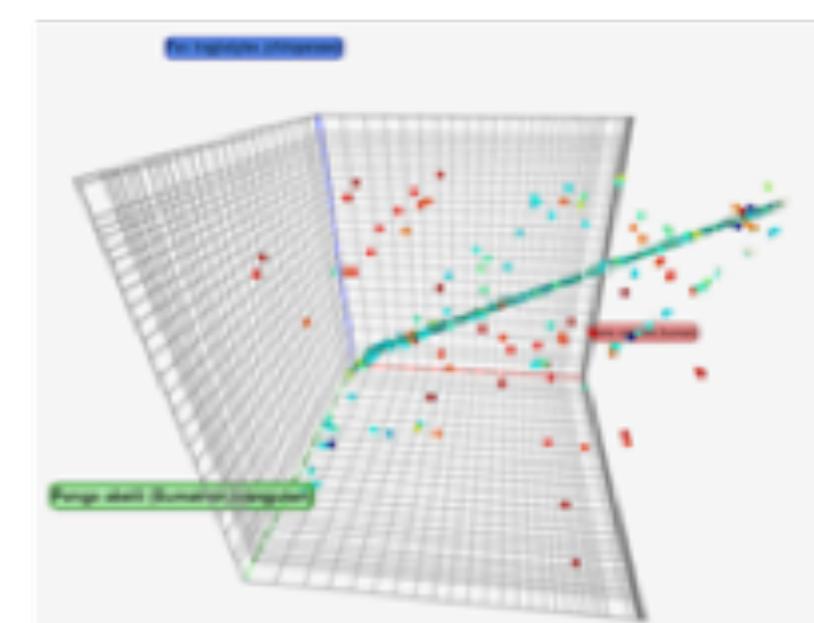
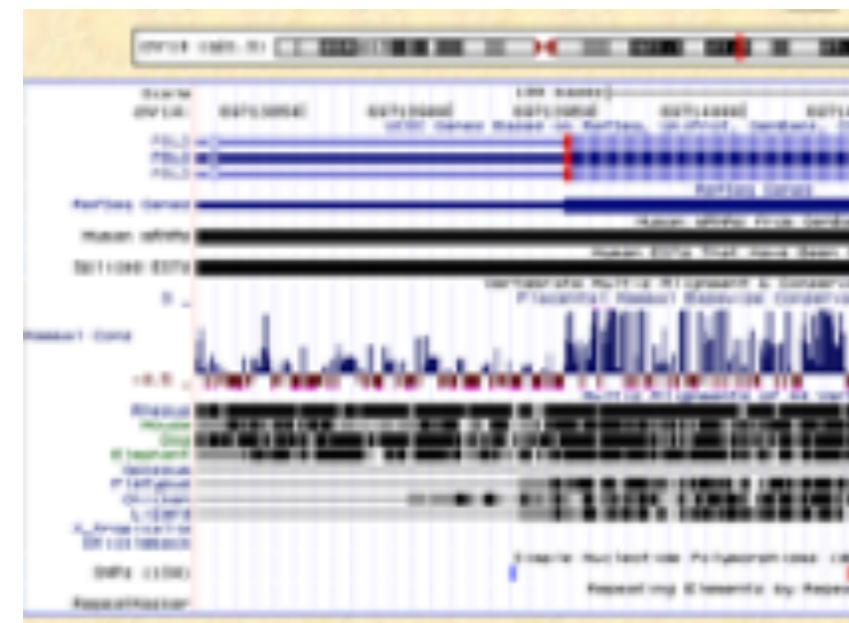


Computational Genomics

Cloning Basics



General Workflow

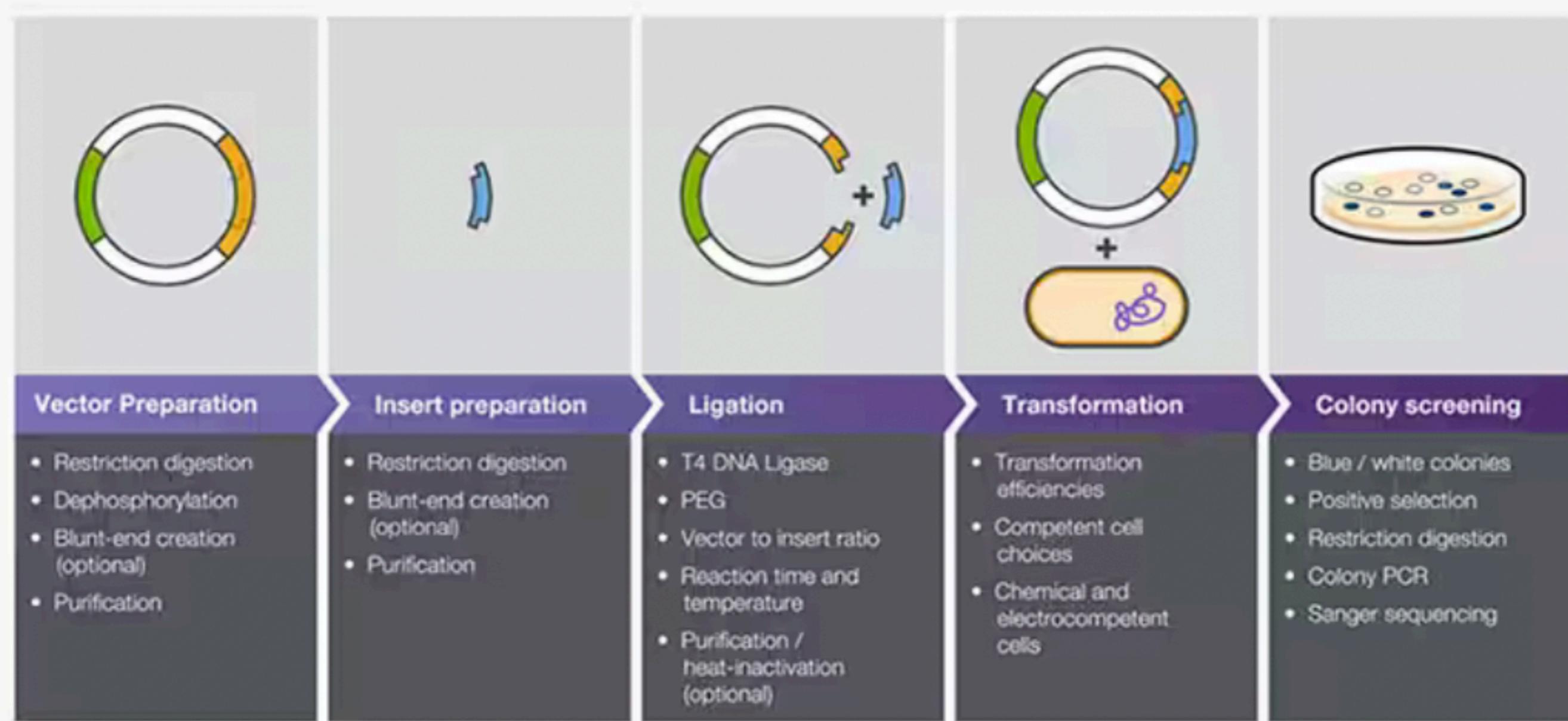


Figure 1. Traditional cloning workflow.

Vector Preparation

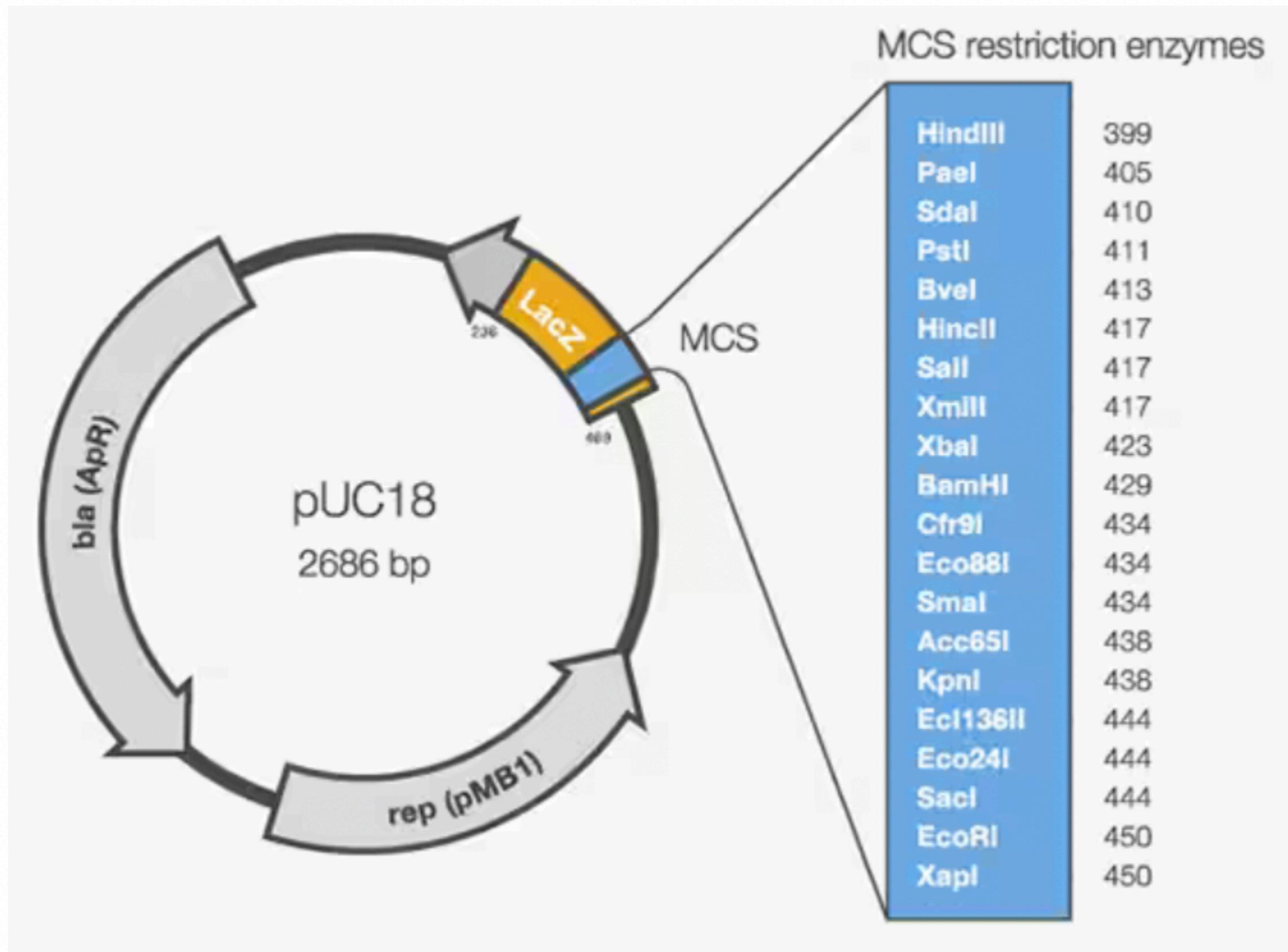
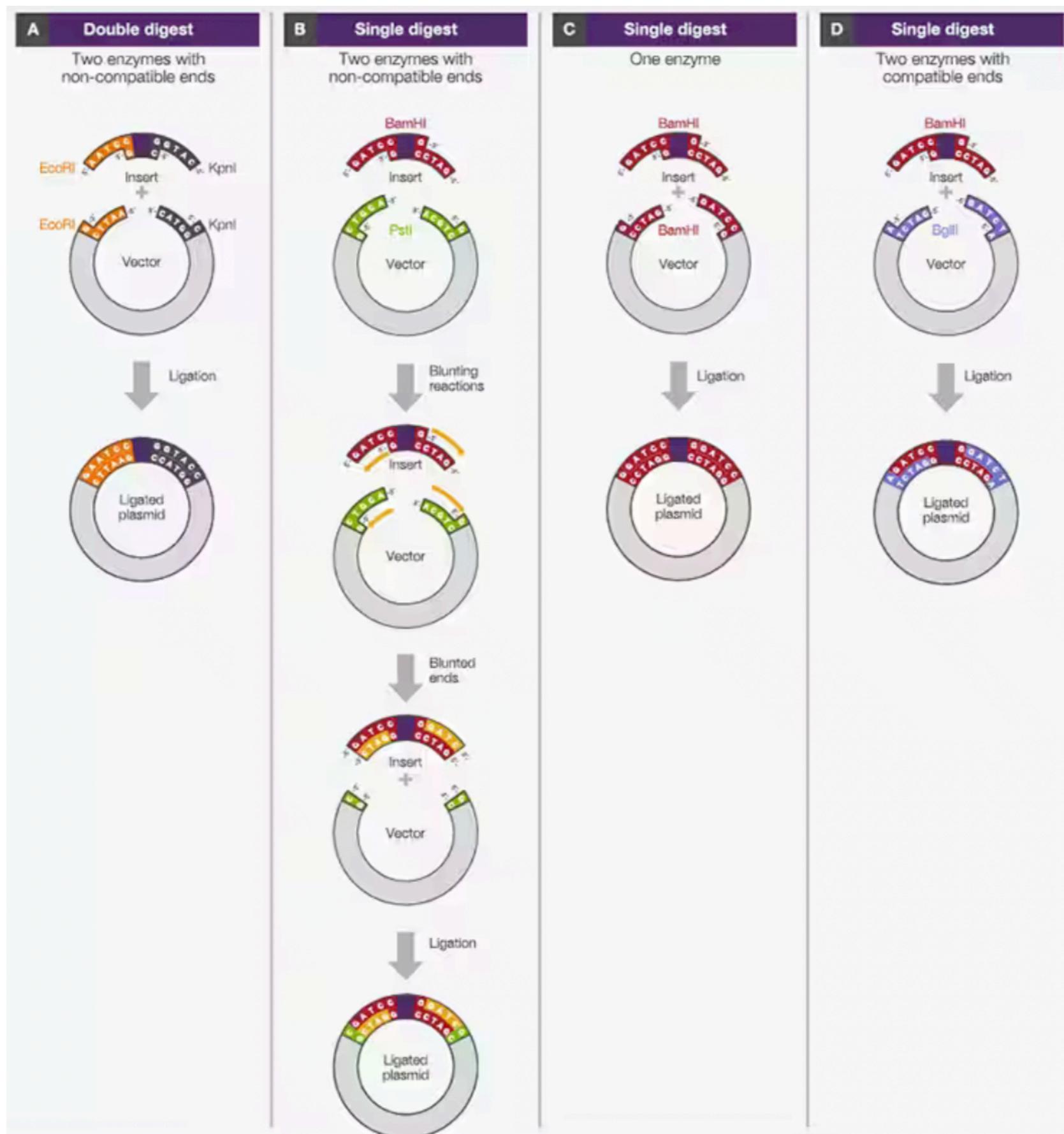


Figure 2. Map of pUC18 with its MCS.

[Link to original material](#)

Insert Preparation



[Link to original material](#)

Insert Preparation

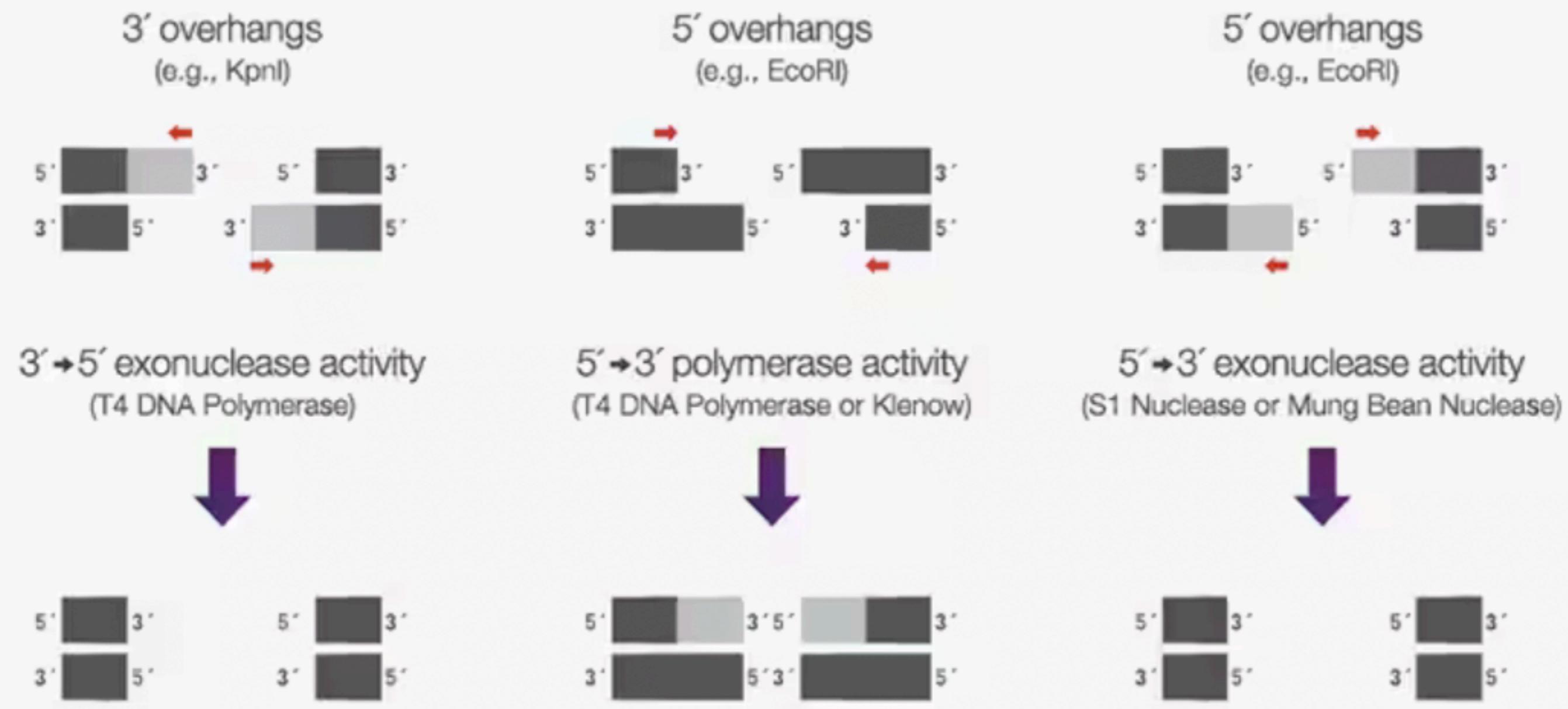


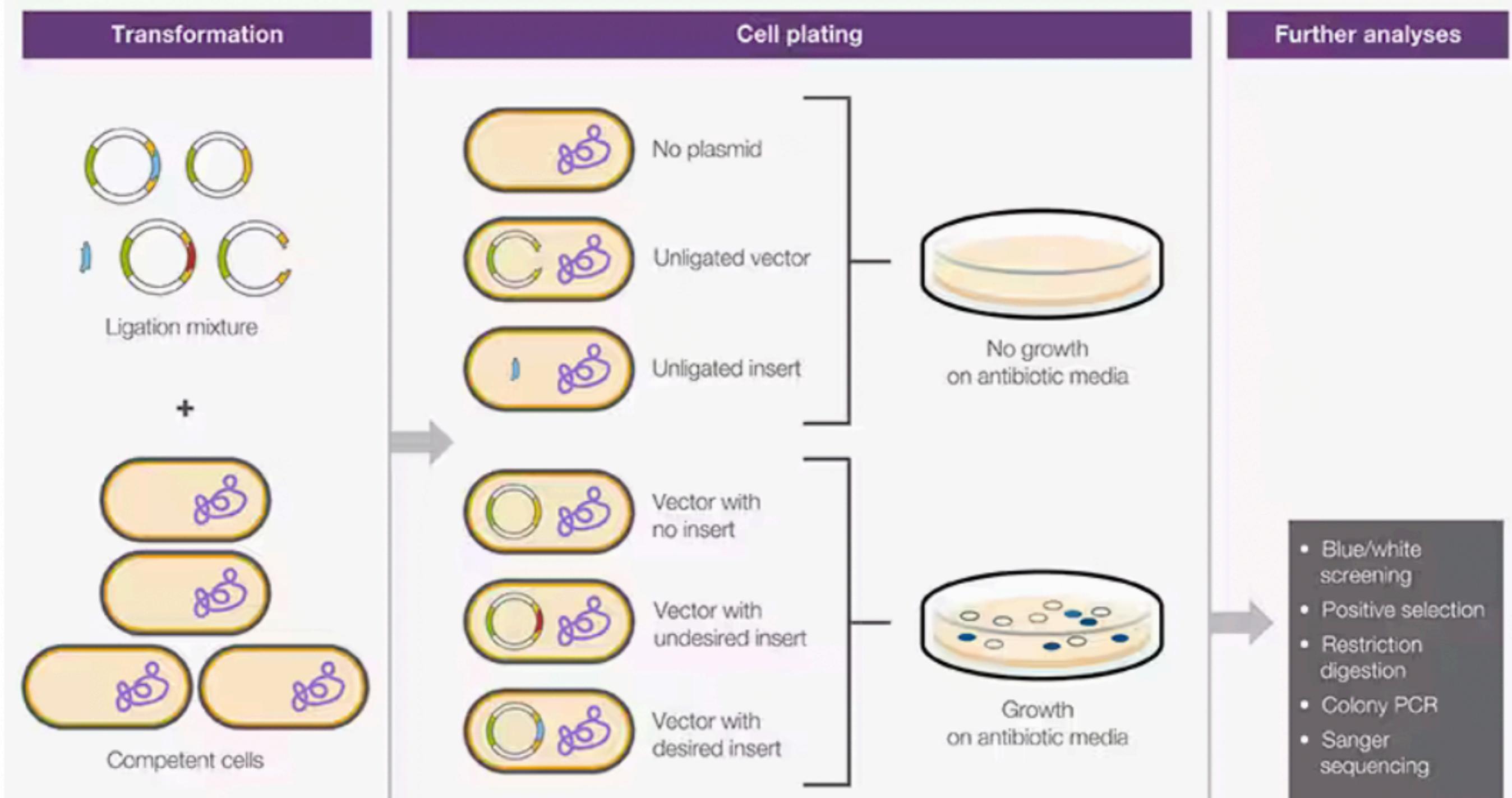
Figure 4. Enzymatic digestion to produce blunt ends from overhangs created by restriction digestion.

Ligation



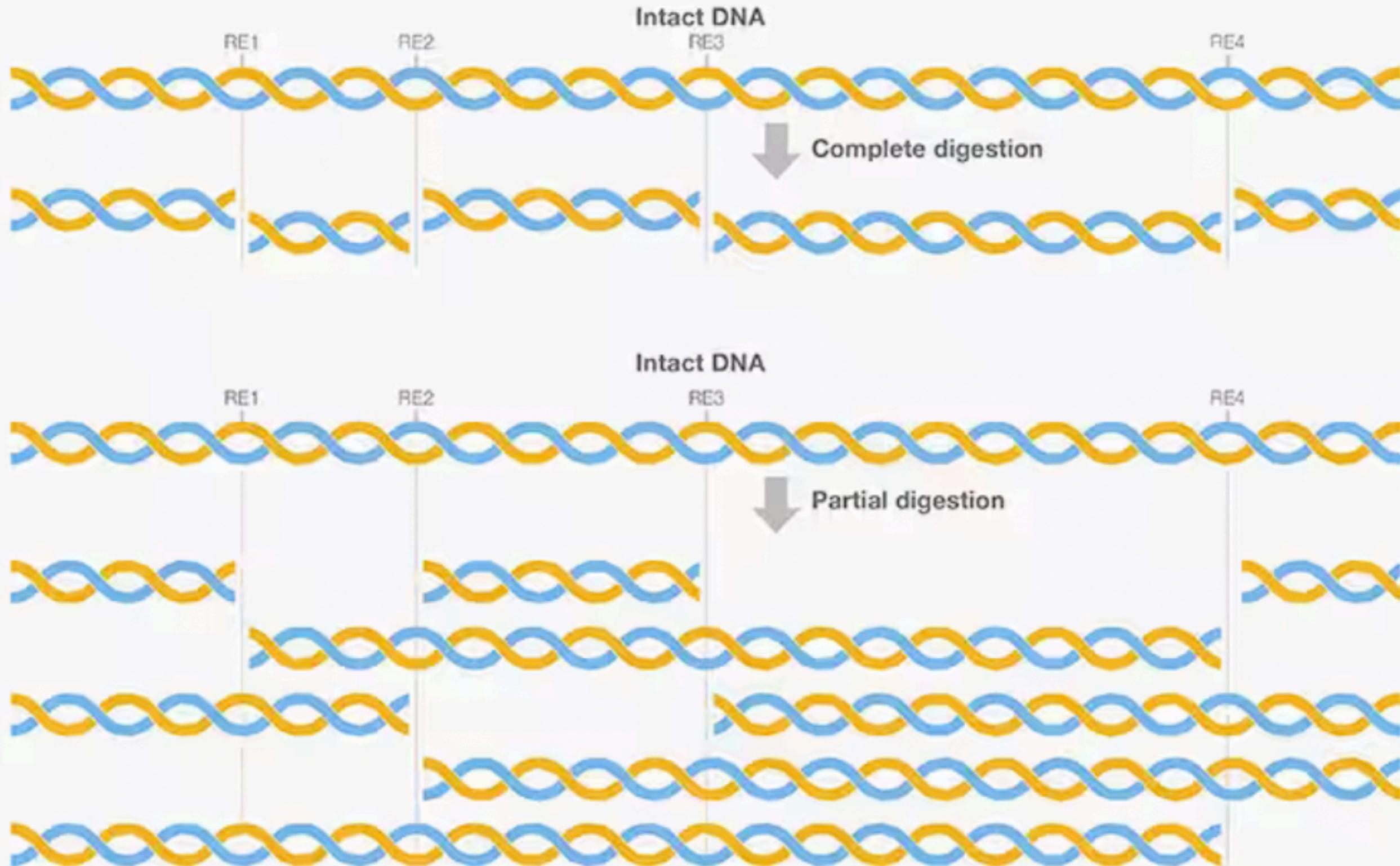
Figure 5. T4 DNA ligase reaction.

Colony Screening



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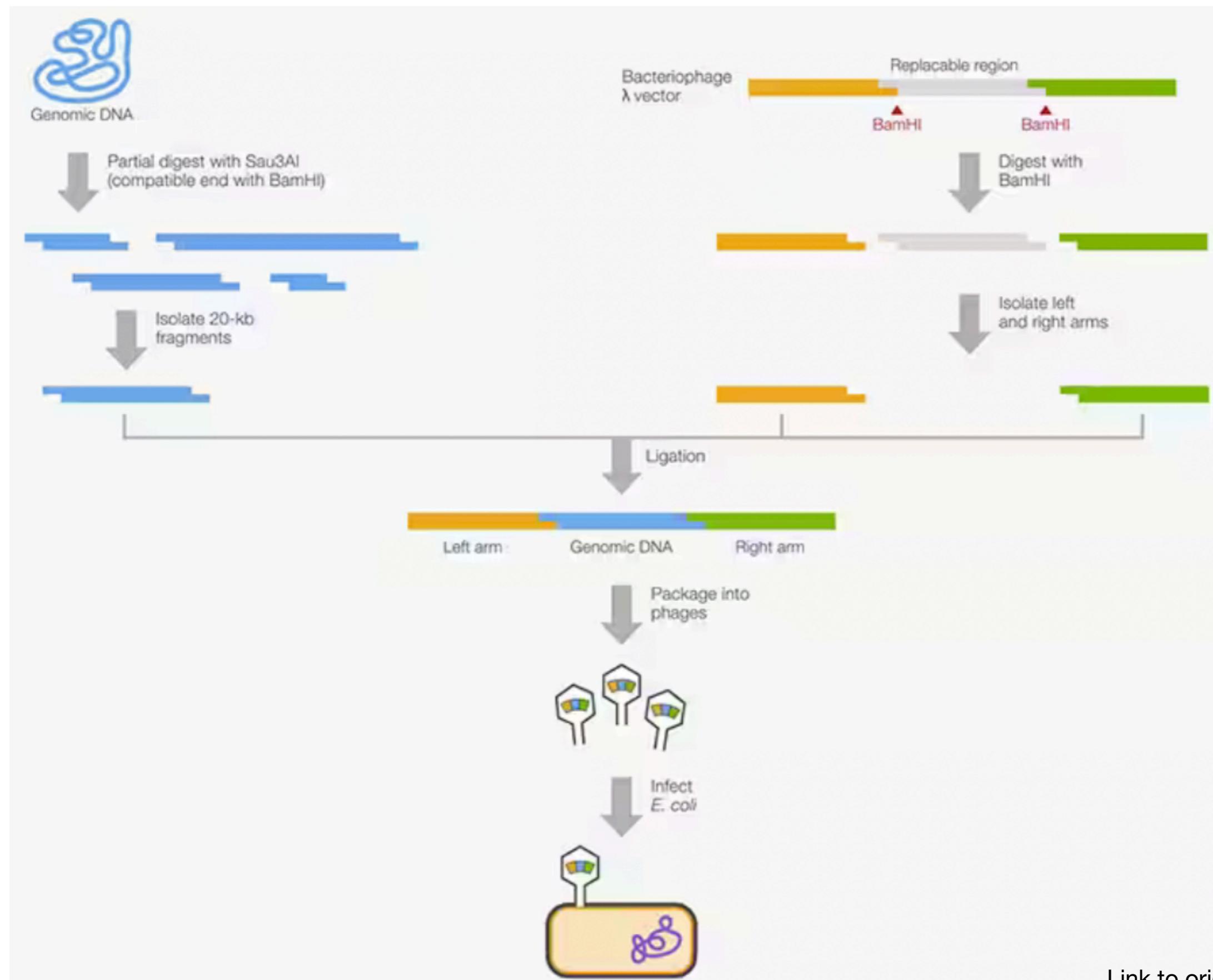
Library construction essentials



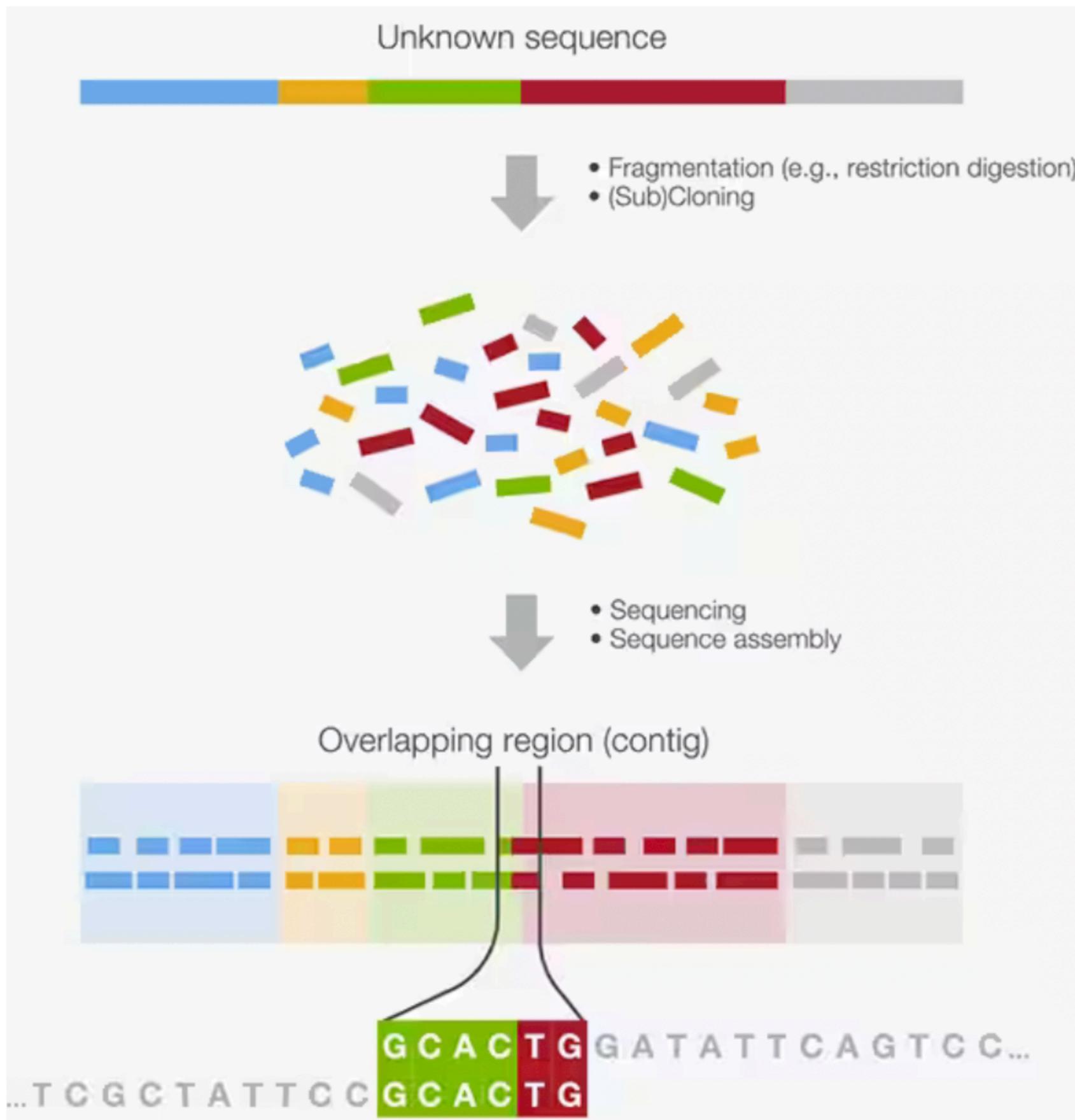
Library construction essentials

Vector type	Cloned DNA (kb)	Vector delivery method
Plasmid	20	Transformation
λ phage	25	Transduction
Cosmid	45	Transduction
P1 phage	100	Transduction
BAC (bacterial artificial chromosome)	300	Electroporation
YAC (yeast artificial chromosome)	1,000	Transformation (yeast)

Library construction essentials

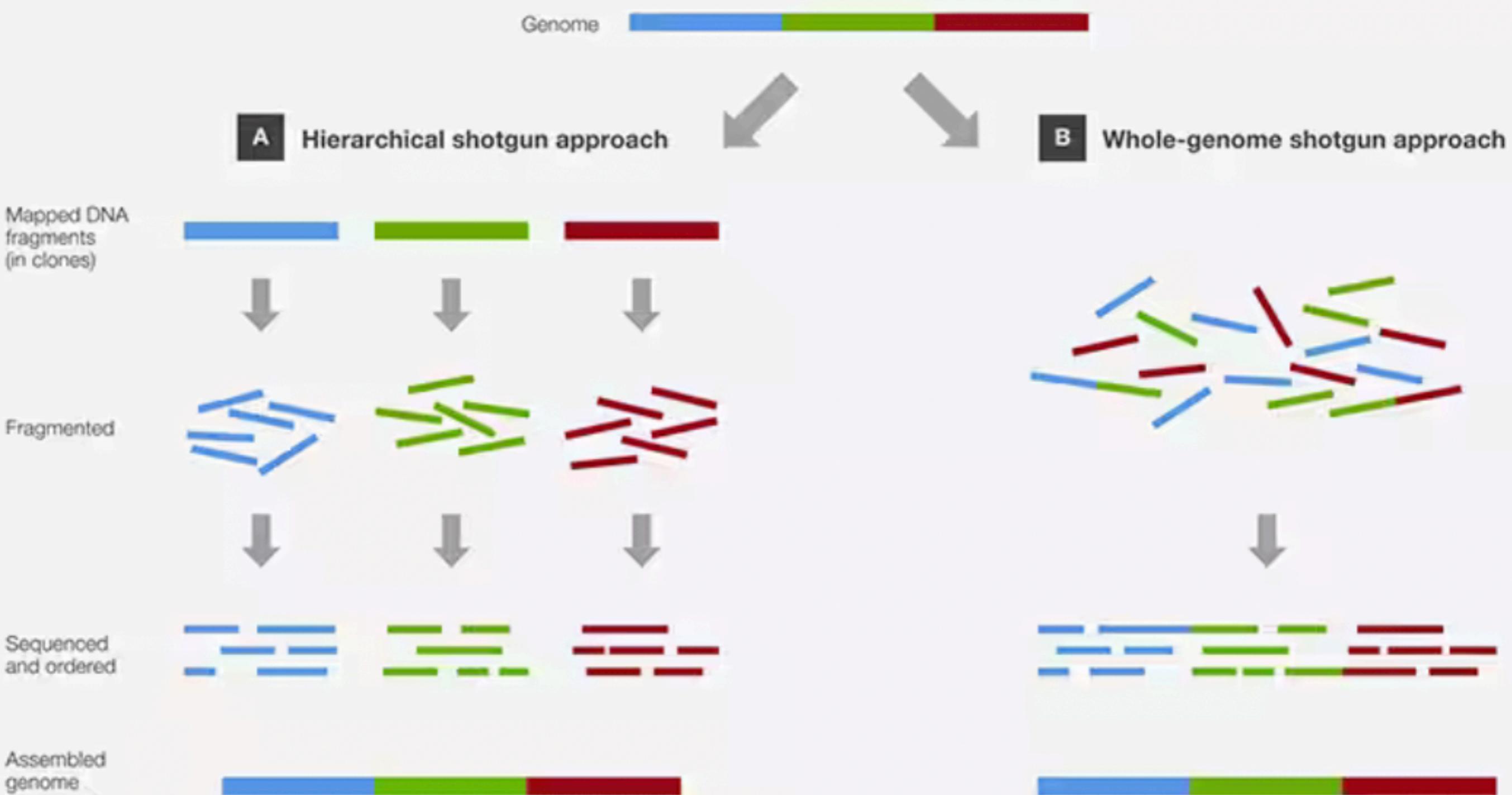


Shotgun cloning and Sequencing



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Shotgun cloning and Sequencing



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