

E. coli Cloning Strains Comparison Chart



Strains	Mutations	When to use	When not to use
GB5-alpha™	recA1 endA1 lacZΔM15	Routine prokaryotic DNA cloning, and general DNA manipulation	Eukaryotic DNA cloning When using large vectors
GB10B™	recA1 endA1 lacZΔM15 Deletions of the mdrs loci Deletions of leuLABCD	Cloning eukaryotic DNA and large vectors	If the downstream steps involve using restriction enzymes, especially those for which methylation at the recognition site can hinder enzyme cleavage.
JM109	recA1 endA1 hsdR17(rK-mK+)	Routine cloning, plasmid maintenance and propagation, cloning DNA with repeat sequences	If the downstream steps involve using restriction enzymes, especially those for which methylation at the recognition site can hinder enzyme cleavage. Not compatible with a vector with a selectable marker for the antibiotic nalidixic acid because this strain is resistant to this antibiotic.
HB101 (RR1 Derivative recA+)	recA13 hsdS20(rB-mB-) leuB6 proA2 recA+ (RR1 Derivative)	Suitable for vectors that do not require alpha-complementation for blue-white screening Ideal for sub-cloning Ideal for storage and propagation of plasmids	Does not offer alpha-complementation for blue-white screening, so this strain cannot be used with plasmids that offer blue-white screening.

References

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