Product Information Sheet

Order: # V33002/V33202

Cloning Vectors pUC18 (#V33002) & pUC19 (#V33202)

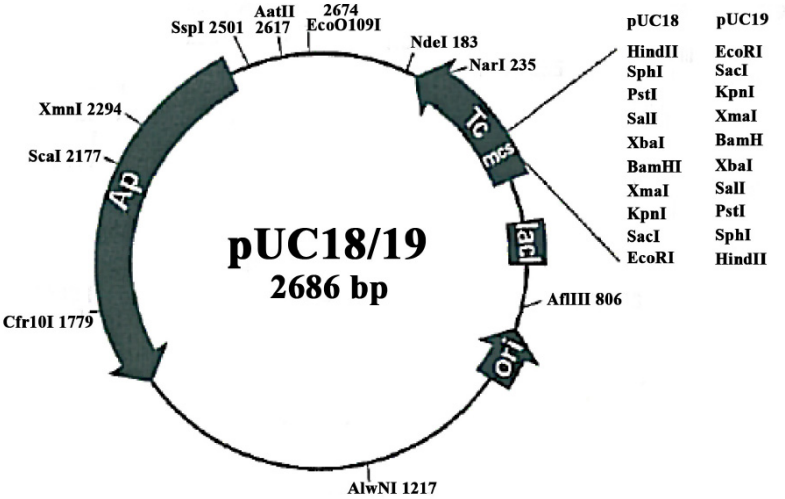
SUMMARY

shipped on blue ice; store at -20 °C

Product Description and Application

pUC18/19 have been constructed using the ampicillin resistance gene and origin of replication from pBR322. They have been ligated to a *lacZ* gene containing the multiple cloning site which is also present in M13mp18/19. Transformation of a suitable *lacZ* deficient *E. coli* host (e.g. JM101) with pUC18/19 allows α-complementation of the host mutation by the functional *lacZ* gene carried on the plasmid. Transformants expressing ß-galactosidase can be detected as blue colonies an X-Gal/IPTG plates. Using the multiple cloning site, recombinants can be selected as white colonies an X-Gal/IPTG plates. The cloning vectors pUC18 and pUC19 differ in their multiple cloning site orientation. They are highly purified by ion exchange chromatography, cesium chloride density centrifugation and gel filtration. Our DNA preparations yield DNA with over 80% supercoiling. Therefore, the plasmid DNA is ready-to-use for enzymatic reactions and transformations.

Vector Map



Ap^R: ampicillin resistence
Tc^R: tetracycline resistence
LucI: gene for lac repressor
ori: Col E1 origin of replication
mcs: multiple cloning site

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Quality Control & Technical Details

Protein contamination is monitored by measuring the ratio of absorbance at 260 and 280 nm. All preparations must have A_{260}/A_{280} greater than 1.8, indicating essentially protein-free DNA.
The absence of nuclease activity is measured by incubating plasmid DNA in restriction buffer for 16 hours. No DNA degradation should be observed.
The DNA's suitability for enzymatic manipulation is tested by restriction with a variety of endonucleases. The correct banding pattern is confirmed by agarose gel electrophoresis.
The transformation efficiency of the plasmid DNA is measured and antibiotic resistance and blue/white selection is also confirmed.
During storage at 4 °C, plasmid DNA will slowly convert from supercoiled to relaxed circles. Although this will not affect restriction, transformation efficiency will drop.
For long-term storage keep at -20 °C. If multiple freeze-thawing cycles are likely to occur, dispense small volumes into sterile tubes and store at -20 °C.
All plasmids are supplied in TE buffer (10 mM Tris-HCl, pH 8.0, 1 mM EDTA).

References

Hellmann, D.M. *et al*., *Proc. Nati. Acad. Sci*. USA, 82 (1983) 31
Hong, G.F., *Biosci. Report*, 2 (1982) 907
Ruther, U., *Mol. Gen. Genet*., 178 (1980) 475
Ruther, U. *et al*., *Nucleic Acids Res*., 9 (1981) 4807
Vieira, J. and Messing, J., *Gene*, 19 (1982) 259
Yanich-Perron, C. *et al*., *Gene*, 33 (1985) 103

Order Information, Shipping and Storage

Order#	Product	Quantity
V33002	pUC18 Vector DNA	25 µg
V33202	pUC19 Vector DNA	25 µg
shipped on blue ice; store at -20 °C		

Contact and Support

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