Cloning Vector pUC19

Product Information Sheet
V33202

SUMMARY

shipped at RT; store at 4 °C

For research use only

Product

pUC19 high copy cloning vector for replication in *E. coli*, suitable for “blue-white screening” technique.

Description

pUC19 is a small, high copy cloning vector for replication in *E. coli*. It has been constructed using the ampicillin resistance gene and the pMB1 origin of replication from pBR322. The pMB1 of pUC19 differs from the pBR322 origin by a single point mutation and the lack of the *rop* gene, leading to a high copy number. Additionally, pUC19 contains the lac operon of *E. coli* with CAP binding site, *lac* promoter (P_{lac}), Lac repressor (LacR) binding site, and the 5’-terminal part of the *lacZ* gene encoding for the N-terminal part of β-galactosidase (source – M13mp19 phage vector). This 5’-terminal part of the *lacZ* gene contains the multiple cloning site (MCS), and its expression is IPTG inducible. It is capable of intra-allelic α-complementation of a partial deleted chromosomal *lacZ* copy (*E. coli* host strain: l*acZΔM15*, e.g., DH5α, DH10B, JM101, JM109). In the presence of IPTG, transformants expressing both fragments of the ß-galactosidase (the vector encoded N-terminal part and the chromosomal encoded C-terminal part) will form a functional enzyme and can be detected as blue colonies on agar plates containing X-Gal. Cloning into the multiple cloning site will lead to a nonfunctional N-terminal fragment of the ß-galactosidase and to the abolishment of α-complementation. White colonies will form on X-Gal/IPTG plates.

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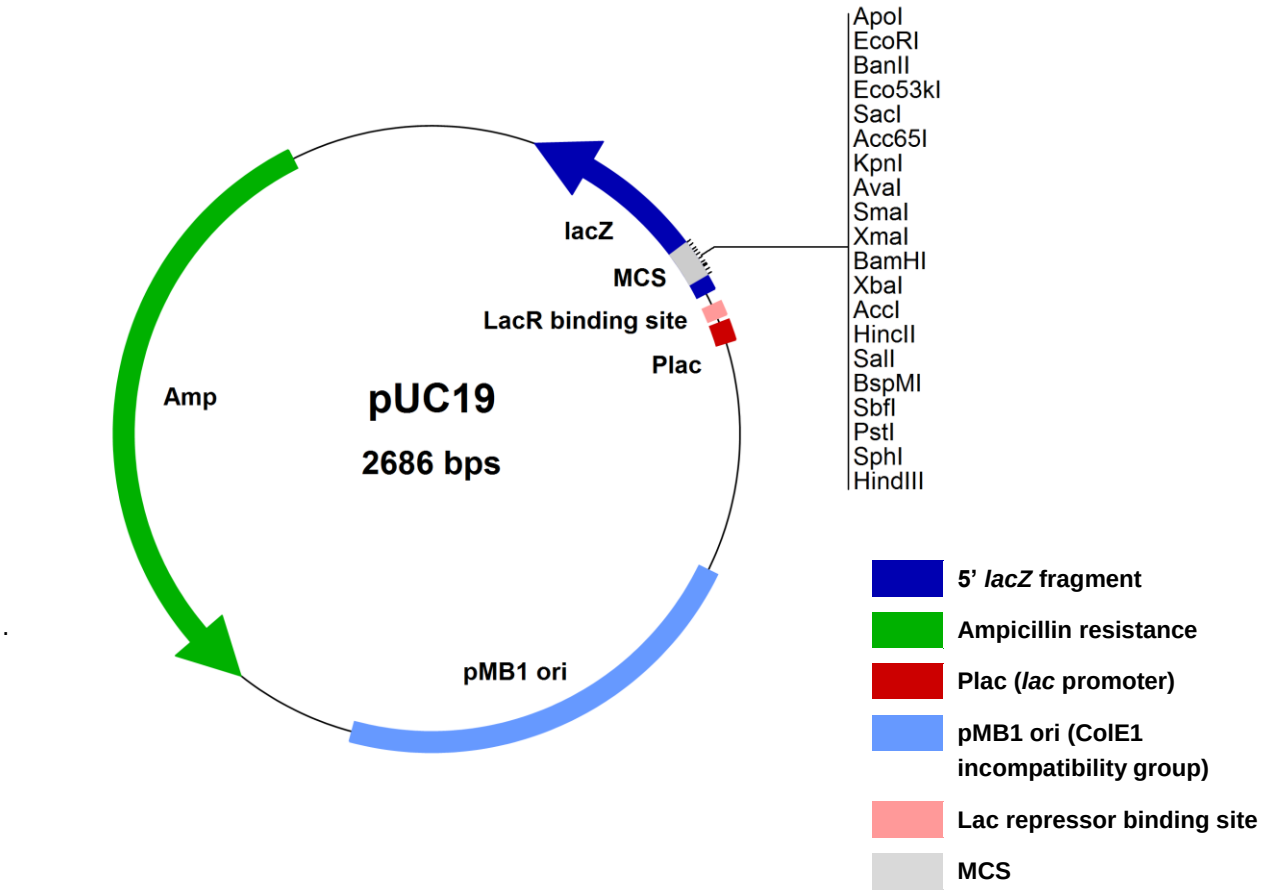
Vector Map



Quality Warranty

DNA concentration and purity was checked by UV spectrophotometry. All restriction sites specified in the vector map were checked by sequencing. Functionality of α-complementation was checked by transformation and plating the transformants on IPTG/X-Gal agar plates.

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References

Yanisch-Perron C (1985) Improved M13 phage cloning vectors and host strains: nucleotide sequences of the M13mp18 and pUC19 vectors; Gene 33, 103-119

Order Information, Shipping and Storage

Order#	Product	Amount
V33202	pUC19, lyophilized DNA	25 µg
shipped at room temperature (RT); store at 4 °C. Once the DNA has been dissolved in sterile water or buffer we recommend storage at -20 °C.		

Related Products

Order#	Product	Amount
MTAQK0	MoBiTaq-K (25 U/µl)	250 U
STAQ02	SuperTaq (5 U/µl)	250 U
STAQH1	Super Taq-HC (15 U/µl)	250 U
ENZ-286-1PS	Recombinant T4 DNA Ligase	20,000 U
GE-TLK0110-1	TurboLigation™ Kit	100 rxn
V33002	pUC18 vector DNA	25 µg
RIBA25	RNAse A, 90 U/mg (Kunitz)	25 mg
A1414-25GMAG	Ampicillin, sodium salt	25 g
I1312-1gAG	IPTG (Isopropyl-Beta-D-thiogalactoside)	1 g
X1015-5gAG	X-GAL	5 g
04004G	MoBiTec Agarose LE	500 g

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