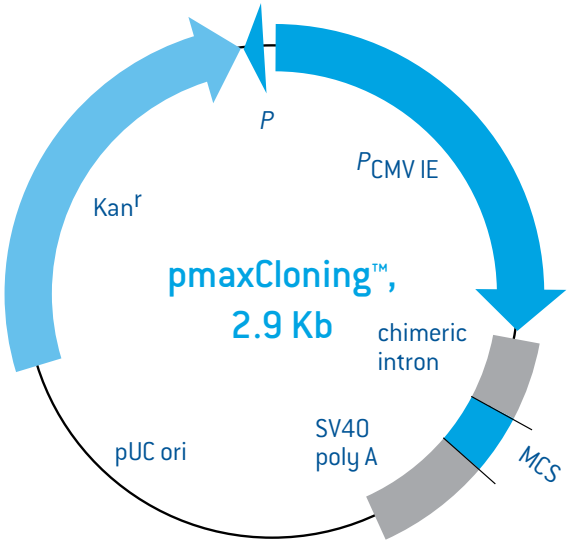
pmaxCloning™ [Cat.No. VDC-1040]

Vector Description

pmaxCloning™ [1,2] is an eukaryotic expression vector to promote constitutive expression of cloned DNA inserts in mammalian cells. The pmaxCloning™ vector backbone contains the immediate early promoter of cytomegalovirus ($P_{CMV\ IE}$) for protein expression, a chimeric intron for enhanced gene expression and the pUC origin of replication for propagation in *E. coli*. The bacterial promoter (P) provides kanamycin resistance gene expression in *E. coli*. The multiple cloning site (MCS) is located between the CMV promoter and the SV40 polyadenylation signal (SV40 poly A).

The pmaxCloning™ Vector can be used for both transient and stable expression of genes. For stable expression the pmaxCloning™ Vector must be co-transfected with an expression vector containing a selectable gene for mammalian cells.



Location of Features:

$P_{CMV\ IE}$: 1-798
Chimeric intron: 811-947
MCS: 947-1048
SV40 late mRNA polyadenylation signal: 1051-1251
Polyadenylation signal: 1148-1153
pUC plasmid replication origin: 1325-1966
Kanamycin resistance gene: 2028-2819
Bacterial promoter for expression of Kan^r gene: 2820-2852

MCS

947 GG.TAC.CGC.CAT.CAT.GAA.GTT.TAA.ACA.AGC.TTG.AAT.TCT.CTA.GAG.ATA.TCC.TGC.AGA.GAT.CTG.GAT.CCC.TCG.AGG.CTA.GCG.CGG.CCG.CGT.TTA.AAC.AGA.GCT.C

KpnI, EcoR I, EcoR V, BamH I, Nhe I, Sac
Hind III, XbaI, Pst I, Xho I, Not L

Cloning of DNA Insert

The pmaxCloning™ Vector does not contain an ATG initiation codon. A translation initiation sequence must be incorporated if the DNA fragment to be cloned does not have an initiating ATG codon or an optimal sequence for initiating translation, such as the Kozak sequence [GCC(A/G)CCATGG].

Expression in Mammalian Cells

pmaxCloning™ can be transfected into mammalian cells by any known transfection method. The CMV promoter provides strong, constitutive expression of the cloned DNA insert in many cell types.

Propagation in *E. coli*

- Suitable host strains: DH5alpha, HB101, and other general purpose strains
- Selectable marker: plasmid confers resistance to kanamycin (30 µg/ml) to *E. coli*. hosts
- *E. coli* replication origin: pUC
- Copy number: ~500
- Plasmid incompatibility group: pMB1/ColE1

[1] The CMV promoter is covered under the U.S. patents 5,168,062 and 5,385,839 and its use is permitted for research purposes only. Any other use of the CMV promoter requires a license from the University of Iowa Research Foundation, 214 Technology Innovation Center, Iowa City, IA, USA.

[2] The use of this product, alone or in combination with materials and/or methods of others, may require a license from a third party. User shall be fully responsible for determining whether and from whom it requires such license and for obtaining such licensE.