

pJNC-opRL	
Cat. No.	P-109
Gene/Insert name:	Codon-optimized <i>Renilla</i> luciferase (opRLuc)
Vector backbone:	pCMV-JNC
Vector type:	Mammalian cells
Backbone size w/o insert (bp):	5,363
Bacterial resistance:	Ampicillin and neomycin
Growth strain:	JM83
Growth temperature (°C):	37
Growth instructions:	pJNC-opRL is resistant to ampicillin and neomycin
High or low copy:	High copy
Vector map:	pJNC-opRL
Coding sequence:	Nucleotide sequence & Amino acid sequence
Restriction enzyme list:	Restriction enzyme sites of pJNC-opRL
GenBank Accession No.:	LC006267
Size:	10 µg
Terms and Licenses:	MTA
Laboratory Reagent For Research Use Only	

Mammalian expression vector:

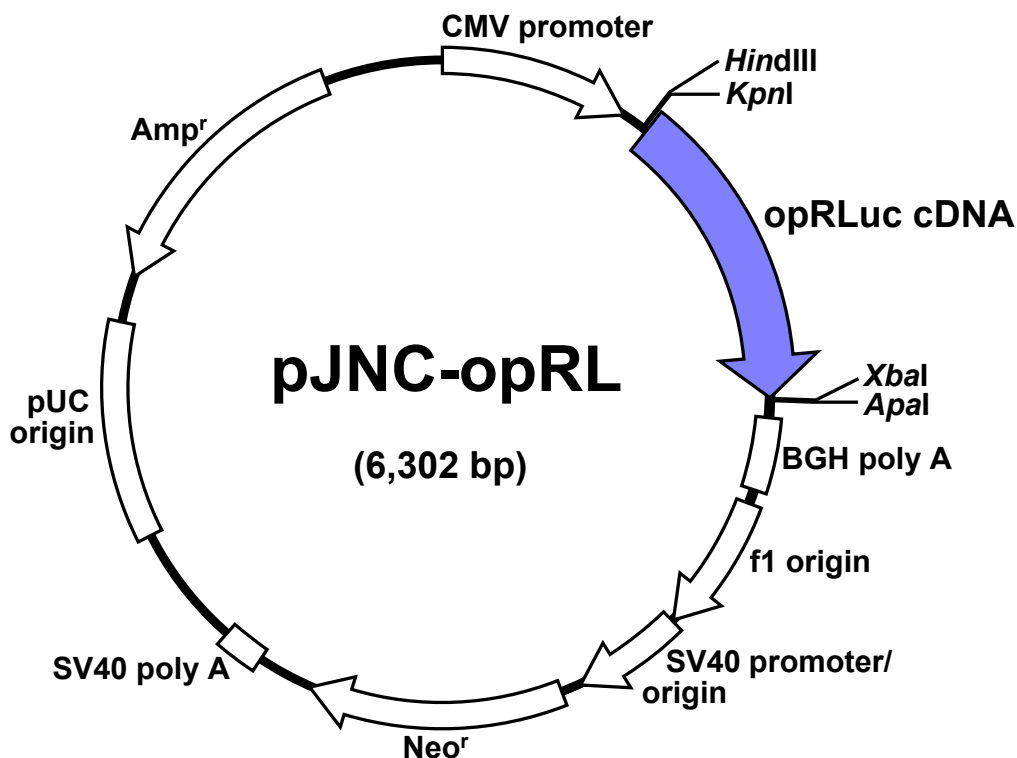
Codon-optimized *Renilla* Luciferase, opRLuc

Cat. No. P-109

Name: pJNC-opRL

Insert: Codon-optimized *Renilla reniformis* luciferase cDNA

Vector: pCMV-JNC



• Feature for pJNC-opRL:

Residue	Source	Comments
1-669	1-669	pCMV-JNC backbone
1-588	1-588	CMV promoter
632-651	632-651	T7 promoter
673-1,605	1-933	opRLuc ORF
1,609-6,302	752-5,445	pCMV-JNC backbone
1,625-1,642	768-785	Sp6 promoter
1,668-1,892	811-1,035	BGH polyadenylation sequence
1,938-2,366	1,081-1,509	f1 origin
2,371-2,714	1,514-1,857	SV40 early promoter and origin
2,776-3,570	1,919-2,713	Neomycin resistance gene (ORF)
3,744-3,874	2,887-3,017	SV40 early polyadenylation signal
4,257-4,930	3,400-4,073	pUC origin
5,075-5,935	4,218-5,078	Ampicillin resistance gene (ORF)

Ref.

- 1) *Renilla* luciferase amino acid seq. & cDNA seq.: GenBank Accession No. M63501 Lorenz, W. W. *et al. Proc. Natl. Acad. Sci. USA* (1991) 88: 4438-4442.
- 2) Codon-optimized *Renilla* luciferase DNA seq.: GenBank Accession No. LC006267 Inouye, S. *et al. Protein Expr. Purif.* (2015) 109: 47-54

Gene coding region (ORF: Codon-optimized *Renilla luciferase/opRLuc*)

Nucleotide sequence

AAGCTTGGTACCACC**ATGACCAGCAAGGTCTACGACCCCGAGCAGAGAAAGAGAATGATCACCGGCCCCC**
AGTGGTGGGCCAGATGCAAGCAGATGAACGTCTTGGACAGCTTCATCAACTACTACGACAGCGAGAAGCA
CGCCGAGAACCGCGTCATCTTCTGCACGGCAACGCCGCCAGCAGCTACCTGTGGAGACACGTCGTCCCC
CACATCGAGCCCGTCGCCAGATGCATCATCCCCGACCTGATCGGCATGGGCAAGAGCGGCAAGAGCGGCA
ACGGCAGCTACAGACTGCTGGACCACTACAAGTACCTGACCGCCTGGTTCGAGCTGCTGAACCTGCCCAA
GAAGATCATCTTCGTGGCCACGACTGGGGCGCCTGCCTGGCCTTCCACTACAGCTACGAGCACCAGGAC
AAGATCAAGGCCATCGTCCACGCCGAGAGCGTCTCGACGTCATCGAGAGCTGGGACGAGTGGCCCGACA
TCGAGGAGGACATCGCCCTGATCAAGAGCGAGGAGGGCGAGAAGATGGTCCCTGGAGAACAAC'TTCTTCGT
CGAGACCATGCTGCCCAGCAAGATCATGAGAAAGCTGGAGCCCGAGGAGTTCGCCGCC'TACCTGGAGCCC
TTCAAGGAGAAGGGCGAGGTCAGAAGACCCACCTGAGCTGGCCAGAGAGATCCCC'TGGTCAAGGGCG
GCAAGCCCAGCGTCGTCCAGATCGTCAGAACTACAACGCC'TACCTGAGAGCCAGCGACGACCTGCCCAA
GATGTTTCATCGAGAGCGACCCCGGCTTCTTCAGCAACGCCATCGTCGAGGGCGCCAAGAAGTTCCCCAAC
ACCGAGTTCGTCAAGGTCAAGGGCCTGCACTTCAGCCAGGAGGACCCCCGACGAGATGGGCAAGTACA
TCAAGAGCTTCGTTCGAGAGAGTCTGAAGAACGAGCAG**TAATCTAGA**

Amino acid sequence

MTSKVYDPEQRKRMITGPGQWWARCKQMNVLDSFINYYDSEKHAENAVIFLHGNAASSYLWRHVVPPIEPV
ARCIIPDLIGMGKSGKSGNGSYRLLDHYKYLTAWFELNLPKKII FVGHDWGACLAFHYSYEHQDKIKAI
VHAESVVDVIESWDEWPDIEEDIALIKSEEKGMVLENNFFVETMLPSKIMRKLEPEEFAAYLEPFKEKG
EVRRP T LSWPREIPLVKGGKPDVVQIVRNYNAYLRASDDL PKMFIESDPGFFSNAIVEGAKKFPNTEFVK
VKGLHFSQEDAPDEMCKYIKSFVERVLKNEQ*

Restriction enzyme sites of pJNC-opRL

Enzyme Name	Sequence	Count	Cutting Positions
AccI	GT!MKAC	5	687, 1113, 3876, 3883, 6071
ApaI	GGGCC!C	1	1620
Asp718I	G!GTACC	1	665
BamHI	G!GATCC	0	-
BclI	T!GATCA	4	714, 1167, 1656, 2746
BglIII	A!GATCT	1	6084
EcoRI	G!AATTC	0	-
EcoRV	GAT!ATC	0	-
HincII	GTY!RAC	4	4, 1114, 3884, 6072
HindIII	A!AGCTT	1	659
KpnI	GGTAC!C	1	669
MluI	A!CGCGT	0	-
NcoI	C!CATGG	3	380, 2602, 3337
NdeI	CA!TATG	1	254
NheI	G!CTAGC	0	-
NotI	GC!GGCCGC	0	-
PstI	CTGCA!G	1	2958
SacI	GAGCT!C	2	588, 1652
SalI	G!TCGAC	3	1112, 3882, 6070
ScaI	AGT!ACT	1	5629
SmaI	CCC!GGG	1	2718
StuI	AGG!CCT	1	2694
XbaI	T!CTAGA	1	1610
XhoI	C!TCGAG	0	-

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