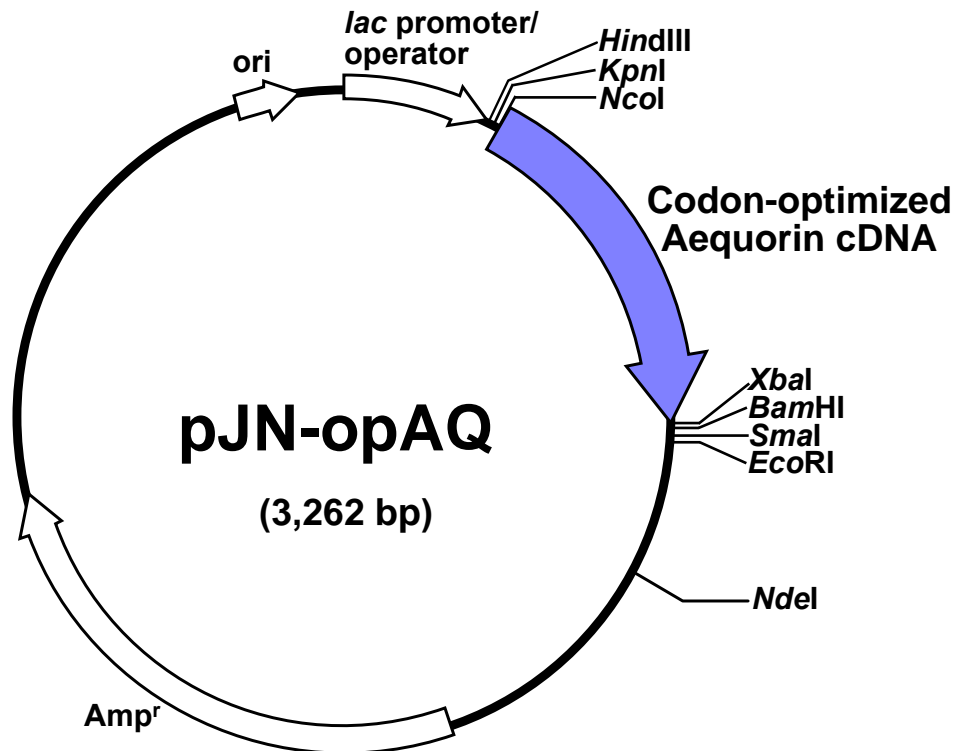


pJN-opAQ	
Cat. No.	P-001
Gene/Insert name:	Codon-optimized Aequorin (opAQ)
Vector backbone:	pUC-JN
Vector type:	<i>E. coli</i>
Backbone size w/o insert (bp):	2,680
Bacterial resistance:	Ampicillin
Growth strain:	JM83
Growth temperature (°C):	37
Growth instructions:	pJN-opAQ is resistant to ampicillin (50 µg/mL)
High or low copy:	High copy
Vector map:	pJN-opAQ
Coding sequence:	Nucleotide sequence & Amino acid sequence
Plasmid sequence:	pJN-opAQ (3,262 bp)
Restriction enzyme list:	Restriction enzyme sites of pJN-opAQ
GenBank Accession No.:	LC006263
Size:	10 µg
Terms and Licenses:	MTA
Laboratory Reagent For Research Use Only	

Ca²⁺-Binding Photoprotein, Aequorin

Cat. No. P-001

Name: pJN-opAQ
Insert: Codon-optimized Aequorin cDNA
Vector: pUC-JN (pUC9 derivative)



• DNA fragment:

`M V K L - - - A V P ***
 aagcttggtaccacc ATG-GTC-AAG-CTG-.....GCC-GTC-CCC-TAA tctaga
 HindIII (Kozak) XbaI`

• Feature for pJN-opAQ:

Residue	Source	Comments
1-245	1-245	pUC-JN backbone (pUC9 derivative)
1-230	1-230	<i>lac</i> promoter/operator
255-824	1-570	Codon-optimized Aequorin ORF
828-3,262	294-2,728	pUC-JN backbone (pUC9 derivative)
3,089	2,555	ori: Origin of replication
1,461-2,321	927-1,787	Amp ^r : Ampicillin resistance gene

Ref.

- 1) Aequorin amino acid seq. & cDNA seq.: GenBank Accession No. AAA27719
Inouye, S. *et al. Proc. Natl. Acad. Sci. USA* (1985) 82: 3154-3158.
- 2) Codon-optimized Aequorin DNA seq.: GenBank Accession No. LC006263
Inouye, S. *et al. Protein Expr. Purif.* (2015) 109: 47-54

Gene coding region (ORF: Codon-optimized Aequorin)

Nucleotide sequence

AAGCTTGGTACCACC**ATGGTCAAGCTGACCAGCGACTTCGACAACCCAGATGGATCGGCAGACACAAGC**
ACATGTTCAACTTCTGGACGTCAACCACAACGGCAAGATCAGCCTGGACGAGATGGTCTACAAGGCCAG
CGACATCGTCATCAATAACCTGGGCGCCACCCCGAGCAGGCCAAGAGACACAAGGACGCCGTCGAGGCC
TTCTTCGGCGGCGCCGGCATGAAGTACGGCGTCGAGACCGACTGGCCCGCTACATCGAGGGCTGGAAGA
AGCTGGCCACCGATGAGCTGGAGAAGTACGCCAAGAACGAGCCACCCTGATCAGAATCTGGGGCGACGC
CCTGTTCGACATCGTGGACAAGGACCAGAACGGCGCCATCACCCCTGGACGAGTGGAAAGGCCACACCAAG
GCCGCCGGCATCATCCAGAGCAGCGAGGACTGCGAGGAGACCTTCAGAGTCTGCGACATCGATGAGAGCG
GCCAGCTGGACGTGGACGAGATGACCAGACAGCACCTGGGCTTCTGGTACACAATGGACCCCGCTGCCA
GAAGCTGTACGGCGGCGCGTCCCT**TAA**TCTAGA

Amino acid sequence

KLGTT**M**VKLTSDFDNPRWIGRHKHMFNFLDVNHNGKISLDEMVKASDIVINNLGATPEQAKRHKDAVEA
FFGGAGMKYGVETDWPAYIEGWKKLATDELEKYAKNEPTLIRIWGDALFDIVDKDQNGAITLDEWKAYTK
AAGIIQSSDCEETFRVCDIDESGQLDVDEMTRQHLGFWYTMDPACEKLYGGAVP*SR

pJN-opAQ (3,262 bp)

GCGCCCAATACGCAAACC GCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCAGCAGAGTTT
 CCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCCAGG
 CTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAA
 CAGCTATGACCATGATTACGCCAAGCTGCAAGCTTGGTACCACC**ATGGTCAAGCTGACCAGCGACTTCGA**
CAACCCAGATGGATCGGCAGACACAAGCACATGTTCAACTTCCCTGGACGTCAACCACAACGGCAAGATC
AGCCTGGACGAGATGGTCTACAAGGCCAGCGACATCGTCATCAATAACCTGGGCGCCACCCCGAGCAGG
CCAAGAGACACAAGGACGCCGTCGAGGCCCTTCTTCGGCGGCGCCGGCATGAAGTACGGCGTCGAGACCGA
CTGGCCCGCTACATCGAGGGCTGGAAGAAGCTGGCCACCGATGAGCTGGAGAAGTACGCCAAGAACGAG
CCCACCCTGATCAGAACTGGGGCGACGCCCTGTTTCGACATCGTGGACAAGGACCAGAACGGCGCCATCA
CCCTGGACGAGTGGAAAGCCTACACCAAGGCCGCGGCATCATCCAGAGCAGCGAGGACTGCGAGGAGAC
CTTCAGAGTCTGCGACATCGATGAGAGCGGCCAGCTGGACGTGGACGAGATGACCAGACGACCCCTGGGC
TTCTGGTACACAATGGACCCCGCTGCGAGAAGCTGTACGGCGGCGCCGTCCCCTAA**TCTAGAGGATCCC**
CGGGAATTGCGGAATTCCGCAATTCACCTGGCCGTCGTTTTTACAACGTCGTGACTGGGAAAACCCCTGGCGT
TACCCAATTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACC
GATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTTCTCCTTACGC
ATCTGTGCGGTATTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAG
CCAGCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTAC
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GACGAAAGGGCCTCGTGATACGCCATTTTTTATAGGTTAATGTCATGATAATAATGGTTTTCTTAGACGTC
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TATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTC****
AACATTTCCGTGTCGCCCTTATTTCCCTTTTTTTCGGCATTTTTTGCCTTCCCTGTTTTTGGCTACCCAGAAAC
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CGGGTTTCGCCACCTCTGACTTGGAGCTGCATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAA
AACGCCAGCAACCGGCCCTTTTACGGTTCTTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCCTG
CGTTATCCCTGATTCTGTGGATAACCGTATTACCGCTTTTGAGTGAGCTGATACCGCTCGCCGACGCCG
AACGACCGAGCGCAGCGAGTCACTGAGCGAGGAAGCGGAAGA

Residue	Source	Comments
1-245	1-245	pUC-JN backbone (pUC9 derivative)
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828-3,262	294-2,728	pUC-JN backbone (pUC9 derivative)
3,089	2,555	ori: Origin of replication
1,461-2,321	927-1,787	Amp ^r : Ampicillin resistance gene

Restriction enzyme sites of pJN-opAQ

Indication Mode: 5' Terminal of the Site

Enzyme Name	Sequence	Count	Start Position
AccI	GT!MKAC	1	366
ApaI	GGGCC!C	0	
Asp718I	G!GTACC	1	246
BamHI	G!GATCC	1	834
BclI	T!GATCA	1	568
BglII	A!GATCT	0	
EcoRI	G!AATTC	1	852
EcoRV	GAT!ATC	0	
HindIII	A!AGCTT	1	240
KpnI	GGTAC!C	1	246
MluI	A!CGCGT	0	
NcoI	C!CATGG	1	253
NdeI	CA!TATG	1	1073
NheI	G!CTAGC	0	
NotI	GC!GGCCGC	0	
PstI	CTGCA!G	0	
SacI	GAGCT!C	0	
SalI	G!TCGAC	0	
ScaI	AGT!ACT	1	1765
SmaI	CCC!GGG	1	839
XbaI	T!CTAGA	1	828
XhoI	C!TCGAG	0	

Supplier	Contact us
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