

pJNC-opAQ	
Cat. No.	P-103
Gene/Insert name:	Codon-optimized Aequorin (opAQ)
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-opAQ is resistant to ampicillin and neomycin
High or low copy:	High copy
Vector map:	pJNC-opAQ
Coding sequence:	Nucleotide sequence & Amino acid sequence
Plasmid sequence:	pJNC-opAQ (5,939 bp)
Restriction enzyme list:	Restriction enzyme sites of pJNC-opAQ
GenBank Accession No.:	LC006263
Size:	10 µg
Constituents:	10 mM Tris-HCl (pH 7.6) – 1 mM EDTA
Terms and Licenses:	MTA
Laboratory Reagent For Research Use Only	

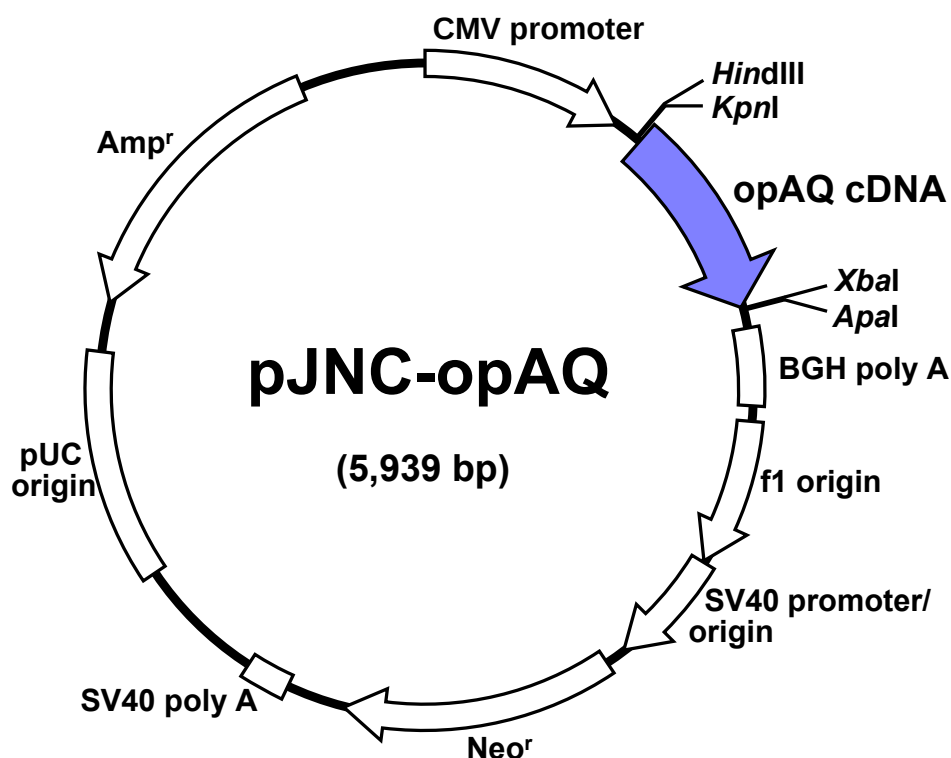
Mammalian expression vector: Ca²⁺-Binding Photoprotein, Aequorin

Cat. No. P-103

Name: pJNC-opAQ

Insert: Codon-optimized Aequorin cDNA

Vector: pCMV-JNC



• Feature for pJNC-opAQ:

Residue	Source	Comments
1-669	1-669	pCMV-JNC backbone
1-588	1-588	CMV promoter
632-651	632-651	T7 promoter
673-1,242	1-570	Codon-optimized Aequorin ORF
1,246-5,939	752-5,445	pCMV-JNC backbone
1,262-1,279	768-785	Sp6 promoter
1,305-1,529	811-1,035	BGH polyadenylation sequence
1,575-2,003	1,081-1,509	f1 origin
2,008-2,351	1,514-1,857	SV40 early promoter and origin
2,413-3,207	1,919-2,713	Neomycin resistance gene (ORF)
3,381-3,511	2,887-3,017	SV40 early polyadenylation signal
3,894-4,567	3,400-4,073	pUC origin
4,712-5,572	4,218-5,078	Ampicillin resistance gene (ORF)

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/opAQ)**Nucleotide sequence**

AAGCTTGGTACCACC**ATGGTCAAGCTGACCAGCGACTTCGACAACCCAGATGGATCGGCAGACACAAGC**
ACATGTTCAACTTCCTGGACGTCAACCACAACGGCAAGATCAGCCTGGACGAGATGGTCTACAAGGCCAG
CGACATCGTCATCAATAACCTGGGCGCCACCCCGAGCAGGCCAAGAGACACAAGGACGCCGTCGAGGCC
TTCTTCGGCGGGCGCCGGCATGAAGTACGGCGTCGAGACCGACTGGCCCGCCTACATCGAGGGCTGGAAGA
AGCTGGCCACCGATGAGCTGGAGAAGTACGCCAAGAACGAGCCACCCTGATCAGAATCTGGGGCGACGC
CCTGTTTCGACATCGTGGACAAGGACCAGAACGGCGCCATCACCTGGACGAGTGGAAGGCCTACACCAAG
GCCGCCGGCATCATCCAGAGCAGCGAGGACTGCGAGGAGACCTTCAGAGTCTGCGACATCGATGAGAGCG
GCCAGCTGGACGTGGACGAGATGACCAGACAGCACCTGGGCTTCTGGTACACAATGGACCCCGCCTGCGA
GAAGCTGTACGGCGGGCGCCGTCCCC**TAATCTAGA**

Amino acid sequence

MVKLTSDFDNPRWIGRHKHMFNFLDVNHNGKISLDEM VYKASDIVINNLGATPEQAKRHKDAVEAFFGGA
GMKYGVETDWPAYIEGWKKLATDELEKYAKNEPTLIRIWGDALFDIVDKDQNGAITLDEWKAYTKAAGII
QSSDCEETFRVCDIDESGQLDVDEMTRQHLGFWYTMDPACEKLYGGAVP*

pJNC-opAQ (5,939 bp)

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 GAATCTGCTTAGGGTTAGGCGTTTTTGCCTGCTTCGCGATGTACGGGCCAGATATACGC

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Restriction enzyme sites of pJNC-opAQ

Enzyme Name	Sequence	Count	Cutting Positions
AccI	GT!MKAC	4	786, 3513, 3520, 5708
ApaI	GGGCC!C	1	1257
Asp718I	G!GTACC	1	665
BamHI	G!GATCC	0	-
BclI	T!GATCA	3	987, 1293, 2383
BglII	A!GATCT	1	5721
EcoRI	G!AATTC	0	-
EcoRV	GAT!ATC	0	-
HincII	GTY!RAC	4	4, 751, 3521, 5709
HindIII	A!AGCTT	1	659
KpnI	GGTAC!C	1	669
MluI	A!CGCGT	0	-
NcoI	C!CATGG	4	380, 672, 2239, 2974
NdeI	CA!TATG	1	254
NheI	G!CTAGC	0	-
NotI	GC!GGCCGC	0	-
PstI	CTGCA!G	1	2595
SacI	GAGCT!C	2	588, 1289
SalI	G!TCGAC	2	3519, 5707
ScaI	AGT!ACT	1	5266
SmaI	CCC!GGG	1	2355
StuI	AGG!CCT	3	866, 1067, 2331
XbaI	T!CTAGA	1	1247
XhoI	C!TCGAG	0	-

Supplier	Contact us
JNC CORPORATION Shin Otemachi Bldg. 9F 2-2-1 Otemachi, Chiyoda-ku, Tokyo 100-8105 URL http://www.jnc-corp.co.jp	JNC Corporation, Yokohama Research Center 5-1 Okawa, Kanazawa-ku, Yokohama, Japan 236-8605 Tel: 045-786-5501 Fax: 045-786-5511 E-mail: jphoton@jnc-corp.co.jp