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pJNC-COsp-opAQ	
Cat. No.	P-104
Gene/Insert name:	Cytochrome *c* oxidase signal peptide sequence −Codon-optimized Aequorin
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-COsp-opAQ is resistant to ampicillin and neomycin
High or low copy:	High copy
Vector map:	pJNC-COsp-opAQ
Coding sequence:	Nucleotide sequence & Amino acid sequence
Plasmid sequence:	pJNC-COsp-opAQ (6,032 bp)
Restriction enzyme list:	Restriction enzyme sites of pJNC-COsp-opAQ
GenBank Accession No.:	opAQ: 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	

コスモ・バイオ株式会社

Mammalian expression vector: Ca^{2+}-Binding Photoprotein, Aequorin, with Mitochondria-Targeting Sequence

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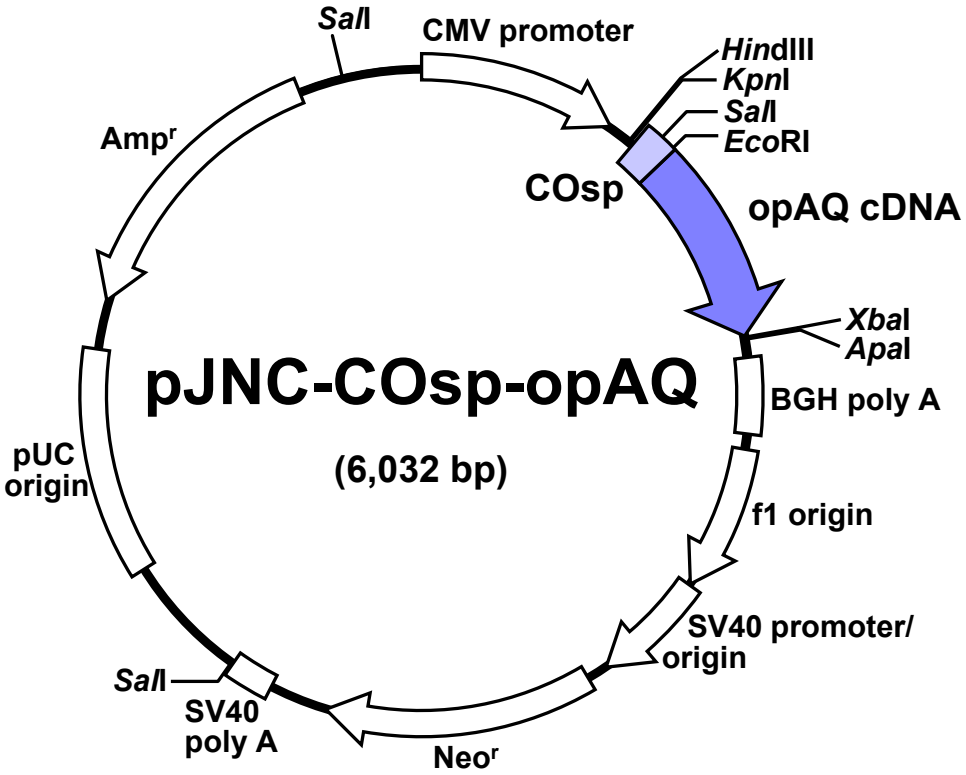
Cat. No. P-104

Name: pJNC-COsp-opAQ
Insert: Cytochrome *c* oxidase signal peptide sequence (COsp) −Codon-optimized Aequorin (opAQ) cDNAs
Vector: pCMV-JNC



- **Feature for pJNC-COsp-opAQ:**

Residue	Sourse	Comments
1-669	1-669	pCMV-JNC backbone
1-588	1-588	CMV promoter
632-651	632-651	T7 promoter
673-747	1-75	COX signal peptide sequence
769-1,335	97-663	Codon-optimized Aequorin ORF
1,339-6,032	752-5,445	pCMV-JNC backbone
1,355-1,372	768-785	Sp6 promoter
1,398-1,622	811-1,035	BGH polyadenylation sequence
1,668-2,096	1,081-1,509	f1 origin
2,101-2,444	1,514-1,857	SV40 early promoter and origin
2,506-3,300	1,919-2,713	Neomycin resistance gene (ORF)
3,474-3,604	2,887-3,017	SV40 early polyadenylation signal
3,987-4,660	3,400-4,073	pUC origin
4,805-5,665	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

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Gene coding region (ORF: Cytochrome *c* oxidase signal peptide sequence/ COsp−Codon-optimized Aequorin/opAQ)

Nucleotide sequence

AAGCTTGGTACCACC**ATG**TCCGTCCTGACGCCGCTGCTGCTGCGGGGCTTGACAGGCTCGGCCCGTCGAC
TCCCAGTGCCGCGCGCCAAGATCCATTCGTTGCCGGAATTCGTCAAGCTGACCAGCGACTTCGACAACCC
CAGATGGATCGGCAGACACAAGCACATGTTCAACTTCCTGGACGTCAACCACAACGGCAAGATCAGCCTG
GACGAGATGGTCTACAAGGCCAGCGACATCGTCATCAATAACCTGGGCGCCACCCCCGAGCAGGCCAAGA
GACACAAGGACGCCGTCGAGGCCTTCTTCGGCGGCGCCGGCATGAAGTACGGCGTCGAGACCGACTGGCC
CGCCTACATCGAGGGCTGGAAGAAGCTGGCCACCGATGAGCTGGAGAAGTACGCCAAGAACGAGCCCACC
CTGATCAGAATCTGGGGCGACGCCCTGTTCGACATCGTGGACAAGGACCAGAACGGCGCCATCACCCTGG
ACGAGTGGAAGGCCTACACCAAGGCCGCCGGCATCATCCAGAGCAGCGAGGACTGCGAGGAGACCTTCAG
AGTCTGCGACATCGATGAGAGCGGCCAGCTGGACGTGGACGAGATGACCAGACAGCACCTGGGCTTCTGG
TACACAATGGACCCCGCCTGCGAGAAGCTGTACGGCGGCGCCGTCCCC**TAA**TCTAGA

Amino acid sequence

MSVLTPLLLRGLTGSARRLPVPRAKIHSLPEFVKLTSDFDNPRWIGRHKHMFNFLDVNHNGKISLDEMVY
KASDIVINNLGATPEQAKRHKDAVEAFFGGAGMKYGVETDWPAYIEGWKKLATDELEKYAKNEPTLIRIW
GDALFDIVDKDQNGAITLDEWKAYTKAAGIIQSSEDCEETFRVCDIDESGQLDVDEMTRQHLGFWYTMDP
ACEKLYGGAVP*****

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pJNC-COsp-opAQ (6,032 bp)

GTTGACATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATAT
GGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTG
ACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGT
ATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTATTGACGT
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TACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTGGAT
AGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAGTTTGTTTTGGCACCA
AAATCAACGGGACTTTCCAAAATGTCGTAACAACTCCGCCCCATTGACGCAAATGGGCGGTAGGCGTGTA
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CAAGCTGACCAGCGACTTCGACAACCCCAGATGGATCGGCAGACACAAGCACATGTTCAACTTCCTGGAC
GTCAACCACAACGGCAAGATCAGCCTGGACGAGATGGTCTACAAGGCCAGCGACATCGTCATCAATAACC
TGGGCGCCACCCCCGAGCAGGCCAAGAGACACAAGGACGCCGTCGAGGCCTTCTTCGGCGGCGCCGGCAT
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AGGACCAGAACGGCGCCATCACCCTGGACGAGTGGAAGGCCTACACCAAGGCCGCCGGCATCATCCAGAG
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ATGACCAGACAGCACCTGGGCTTCTGGTACACAATGGACCCCGCCTGCGAGAAGCTGTACGGCGGCGCCG
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TGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTCCCCCGTGCCTTCCTTGACCCTGGAAGGTGCCAC
TCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCTG
GGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGCGG
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AGCTTGTATATCCATTTTCGGATCTGATCAAGAGACAGGATGAGGATCGTTTCGCATGATTGAACAAGAT
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CCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTT
CCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGG
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GGCTTGACCGACAATTGCATGAAGAATCTGCTTAGGGTTAGGCGTTTTGCGCTGCTTCGCGATGTACGGG
CCAGATATACGC

Residue	Sourse	Comments
1-669	1-669	pCMV-JNC backbone
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632-651	632-651	T7 promoter
673-747	1-75	COX signal peptide sequence
769-1,335	97-663	Codon-optimized Aequorin ORF
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3,987-4,660	3,400-4,073	pUC origin
4,805-5,665	4,218-5,078	Ampicillin resistance gene (ORF)

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Cat. No. P-104

Restriction enzyme sites of pJNC-COsp-opAQ

Enzyme Name	Sequence	Count	Cutting Positions
AccI	GT!MKAC	5	724, 879, 3606, 3613, 5801
ApaI	GGGCC!C	1	1350
Asp718I	G!GTACC	1	665
BamHI	G!GATCC	0	-
BclI	T!GATCA	3	1080, 1386, 2476
BglII	A!GATCT	1	5814
EcoRI	G!AATTC	1	764
EcoRV	GAT!ATC	0	-
HincII	GTY!RAC	5	4, 725, 844, 3614, 5802
HindIII	A!AGCTT	1	659
KpnI	GGTAC!C	1	669
MluI	A!CGCGT	0	-
NcoI	C!CATGG	3	380, 2332, 3067
NdeI	CA!TATG	1	254
NheI	G!CTAGC	0	-
NotI	GC!GGCCGC	0	-
PstI	CTGCA!G	1	2688
SacI	GAGCT!C	2	588, 1382
SalI	G!TCGAC	3	723, 3612, 5800
ScaI	AGT!ACT	1	5359
SmaI	CCC!GGG	1	2448
StuI	AGG!CCT	3	959, 1160, 2424
XbaI	T!CTAGA	1	1340
XhoI	C!TCGAG	0	-

Supplier	Contact us
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