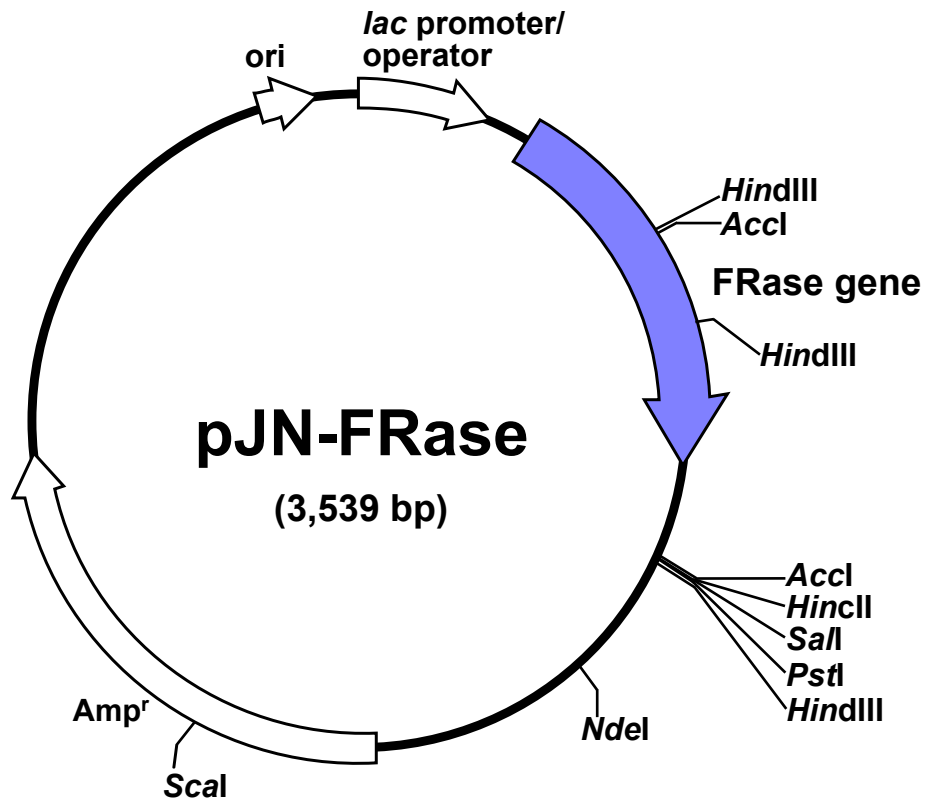


<b>pJN-FRase</b>	
<b>Cat. No.</b>	P-006
<b>Gene/Insert name:</b>	NAD(P)H-flavin oxidoreductase of <i>Vibrio fischeri</i> (FRase)
<b>Vector backbone:</b>	pUC8
<b>Vector type:</b>	<i>E. coli</i>
<b>Backbone size w/o insert (bp):</b>	2,650
<b>Bacterial resistance:</b>	Ampicillin
<b>Growth strain:</b>	JM83
<b>Growth temperature (°C):</b>	37
<b>Growth instructions:</b>	pJN-FRase is resistant to ampicillin (50 µg/mL)
<b>High or low copy:</b>	High copy
<b>Vector map:</b>	<a href="#">pJN-FRase</a>
<b>Coding sequence:</b>	<a href="#">Nucleotide sequence &amp; Amino acid sequence</a>
<b>Plasmid sequence:</b>	<a href="#">pJN-FRase (3,539 bp)</a>
<b>Restriction enzyme list:</b>	<a href="#">Restriction enzyme sites of pJN-FRase</a>
<b>GenBank Accession No.:</b>	<a href="#">D17743</a>
<b>Size:</b>	10 µg
<b>Terms and Licenses:</b>	MTA
<b>Laboratory Reagent For Research Use Only</b>	

# NAD(P)H-flavin oxidoreductase, FRase

Cat. No. P-006

**Name:** pJN-FRase  
**Insert:** NAD(P)H-flavin oxidoreductase gene of *Vibrio fischeri*  
 (FRase)  
**Vector:** pUC8



• DNA fragment:

M T H P --- T I L \*\*\*  
 ATG-ACG-CAT-CCA-.....-ACC-ATC-CTT-TAG

• Feature for pJN-FRase:

Residue	Source	Comments
1-232	1-232	pUC8 backbone
1-230	1-230	<i>lac</i> promoter/operator
304-957	1-654	FRase ORF
1,120-3,539	246-2,665	pUC8 backbone
3,366	2,492	ori: Origin of replication
1,738-2,598	864-1,724	Amp <sup>r</sup> : Ampicillin resistance gene

Ref.

- 1) FRase amino acid seq. & DNA seq.: GenBank Accession No. D17743  
 Zenno, S. *et al. J. Bacteriol.* (1994) 176: 3536-3543.
- 2) FRase expression and purification:  
 Inouye, S. *FEBS Lett.* (1994) 347:163-168.

**Gene coding region (ORF: Flavin oxidoreductase)**

**Nucleotide sequence**

ATTCCCGACATCATAAGTTGTGCGAGACAAGAAATGTCTGTGGATTAAAAATTCACAAGTAAGGTTTATTAT  
T**ATGACGCATCCAATTATTCATGATCTTGAAAATCGTTATACATCAAAAAAATATGACCCATCAAAGAAA**  
GTATCTCAAGAAGATTTAGCGGTTTTGCTTGAGGCTCTGCGTTTTATCTGCTTCTTCAATTAATTCACAGC  
CTTGAAAATTCATTGTTATTGAATCCGATGCAGCGAAGCAACGTATGCATGATTCTGTTTGCAAATATGCA  
TCAGTTTAATCAACCTCACATCAAAGCGTGTCTCATGTGATTTTTATTTGCAAATAAGCTTTCGTATACA  
CGAGATGATTATGATGTGGTTTTATCTAAAGCGGTTGCTGACAAGCGTATTACTGAAGAGCAAAAAGAAG  
CTGCTTTTGCTTCGTTTAAGTTTGTAGAATTGAACTGTGATGAAAATGGTGAGCATAAAGCATGGACTAA  
GCCTCAAGCTTATTTAGCTCTTGGTAATGCTCTGCATACATTAGCTAGACTGAACATTGACTCAACAACA  
ATGGAAGGCATTGATCCTGAATTATTGAGTGAATTTTTGCTGATGAATTTAAAAGGGTATGAATGTCATG  
TTGCTTTAGCCATTGGTTATCATCATCCAAGCGAAGATTATAATGCCTCTTTGCCAAGTCTCGTAAGGC  
ATTTGAAGACGTAATTACCATCCTTT**AG**ATTCTTAATGTTTGAGATGAAGAAAAGCCAGCGATTTAGCTG  
GCTTTTGTGTTGTGCAAAAATGTTCTAATGGCGTATTACTACGGTAGGAAGTCTATTTAAAGTTTCTTTTA  
CTCTTTGGTAATTATTGTCAATTACGCGGAAATCATTATCTAAGTAGGTCGAC

**Amino acid sequence**

**M**THPIIHDLENRYTSKKYDPSKKVSQEDLAVLLEALRLSASSINSQPWKFIVIESDAKQRMHDSFANMH  
QFNQPHIKACSHVILFANKLSYTRDDYDVVLSKAVADKRITEEQKEAAFASFKFVELNCDENGEHKAWTK  
PQAYLALGNALHTLARLNIDSTTMEGIDPELLSEIFADELKGYECHVALAIGYHHPSEDYNASLPKSRKA  
FEDVITIL\*

**pJN-FRase (3,539 bp)**

CGCCCAATACGCAAACCGCCTCTCCCCGCGGTTGGCCGATTCATTAATGCAGCTGGCAGCAGGTTTCCCG  
 ACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACAC  
 TTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCA  
 TGATTACGAAATCCCGACATCATAAGTTGTGCAGACAAGAAATGTCTGTGGATTAATAATTTACAAAGTAAGGTT  
 TATTATT**ATGACGCATCCAATTATTCATGATCTTGAAAA**TCGTTATACATCAAAAAAATATGACCCATCAAAGA  
**AAGTATCTCAAGAAGATTTAGCGGTTTTGCTTGAGGCTCTGCGTTTATCTGCTTCTTCAATTAATTCACAGCCT**  
**TGGAAATTCATTGTTATGAAATCCGATGCAGCGAAGCAACGTATGCATGATTGTTTTGCAAATATGCATCAGTT**  
**TAATCAACCTCACATCAAAGCGTGTTCATGTGATTTTATTTGCAAATAAGCTTTCGTATACACGAGATGATT**  
**ATGATGTGGTTTTATCTAAAGCGTTGCTGACAAGCGTATTACTGAAGAGCAAAAAGAAGCTGCTTTTGCTTCG**  
**TTTAAAGTTTGTAGAATTGAACTGTGATGAAAATGGTGAGCATAAAGCATGGAATAAGCCTCAAGCTTATTTAGC**  
**TCTTGGTAATGCTCTGCATACATTAGCTAGACTGAACATTGACTCAACAACAATGGAAGGCATTGATCCTGAAT**  
**TATTGAGTGAAATTTTTGCTGATGAATTAAGGGTATGAAATGCATGTTGCTTTAGCCATTGGTTATCATCAT**  
**CCAAGCGAAGATTATAATGCCTCTTTGCCTAAGTCTCGTAAGGCATTTGAAGACGTAATTACCATCCTTTAGAT**  
 TCTTAATGTTTTGAGATGAAGAAAAGCCAGCGATTTAGCTGGCTTTTGTGTTGTGCAAAATGTTCCTAATGGCGTA  
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 CGTTACCCAACCTTAATCGCCTTGACGACATCCCCCTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCC  
 ATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCCTGATGCGGTATTTCTCCTTACGCATCTG  
 TGCGGTATTTACACCCGCATATGGTGCACCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCG  
 ACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGCATCCGCTTACAGACAAGCTGTGA  
 CCGTCTCCGGGAGCTGCATGTGTCAGAGGTTTTACCGTCATCACCGAAACGCGCGAGACGAAAGGGCTCGTG  
 ATACGCCTATTTTTATAGGTTAATGTGCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAA  
 TGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCCT  
 GATAAATGCTTCAATAATATGAAAAAGGAAGAGT**ATGAGTATTCAAACATTTCCGTGTCGCCCTTATTCCTTT**  
**TTTTGCGGCATTTTGCCTTCTGTTTTGCTCACCCAGAAACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTT**  
**GGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTCGCCCCGAAGAAC**  
**GTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTATTGACGCCGGCAAGAG**  
**CAACTCGGTCCGCCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTAC**  
**GGATGGCATGACGTAAGAGAATTATGCAGTGTGCCATAACCATGAGTGATAACACTGCGGCCAATCTACTTC**  
**TGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACCTCGCTTGT**  
**CGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCTGTAGCAATGGCAAC**  
**AACGTTGCGCAAATTAATCTGGCGAACTACTTACTTAGCTTCCCGGCAACAATTAATAGACTGGATGGAGG**  
**CGGATAAAGTTGACGCACTTCTGCGCTCGGCCCTCCGGCTGGCTGTTTTATTGCTGATAAATCTGGAGCC**  
**GGTGAGCGTGGGTCTCGCGGTATCATTCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTA**  
**CACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCCTCACTGATTAAGC**  
**ATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTTCAATTTTTAATTTAAAAGG**  
 ATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCTGAGCGTC  
 AGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAAACA  
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 TTCAGCAGAGCGCAGATACCAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCCTTCAAGAACTCTGT  
 AGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGCTTA  
 CCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGTCCGGCTGAACGGGGGGTTCTGTCACACAG  
 CCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTTCC  
 CGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCCGAAACAGGAGAGCGCACGAGGGGAGCTTCCAG  
 GGGGAAACGCCCTGGTATCTTTATAGTCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGC  
 TCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAG**CAACGCGCCCTTTTTACGGTTCCTGGCCTTTTGCTGGCC**  
 TTTTGCTCACATGTTCTTCTGCGTTATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTG  
 ATACCGCTCGCCGACCGGAACGACCGAGCGCAGCGAGTCACTGAGCGAGGAAGCGGAAGA

Residue	Source	Comments
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1,120-3,539	246-2,665	pUC8 backbone
3,366	2,492	ori: Origin of replication
1,738-2,598	864-1,724	Amp <sup>r</sup> : Ampicillin resistance gene

**Restriction enzyme sites of pJN-FRase**

Indication Mode: 5'Terminal of the Site

Enzyme Name	Sequence	Count	Start	Position
AccI	GT!MKAC	2	576	1120
ApaI	GGGCC!C	0		
Asp718I	G!GTACC	0		
BamHI	G!GATCC	0		
BclI	T!GATCA	0		
BglII	A!GATCT	0		
EcoRI	G!AATTC	0		
EcoRV	GAT!ATC	0		
HincII	GTY!RAC	1	1120	
HindIII	A!AGCTT	3	568	728 1134
KpnI	GGTAC!C	0		
MluI	A!CGCGT	0		
NcoI	C!CATGG	0		
NdeI	CA!TATG	1	1350	
NheI	G!CTAGC	0		
NotI	GC!GGCCGC	0		
PstI	CTGCA!G	1	1126	
SacI	GAGCT!C	0		
SalI	G!TCGAC	1	1120	
ScaI	AGT!ACT	1	2042	
SmaI	CCC!GGG	0		
StuI	AGG!CCT	0		
XbaI	T!CTAGA	0		
XhoI	C!TCGAG	0		

Supplier	Contact us
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