



**JIPSC1036\_SnappeneDNA\_INK2J00078R\_PFN1\_C71G\_REVWT**  
 3410 bp

C G G G C G C G C T C C C G T G C A G C C G G C T C G G G C C C G A C C G C C C A T G C A C T C C C G G C C C G G C G C A G G C G C A G C G C C G C C G C C C G G T C C T C C C T T C G G C G G A G G T G G G G A A G G A G T  
G C C C G C G C G A G G G C A C G T C G G C C G A G C C G G G C T G G C G G G T A C G T A G G G C C G G G C G C T C C G C G T C C G C G C C G T G T G C G G C G G C G G G C G G C A G G A A G G A A G C C G C T C C A C C C C T T C C T C C T C A

135

PFN1

C A T C C G T T T A A C C T G G G C T C C C G A A C T C C T T A A T T T G C T A A T T T G C A G C T T G C T A A T T C T C T G C T T T C T C T T C T T C T T C T T G G C T A C T C C T G C C C G A T A C C A A G T C T G G T T A T A T T C  
G T A G G G C A A A T T G G A C C C G A G G G C T T G A G A G G A A T T A A A C G A T T T A A A C G T C G A A C G A T T A A G A G A C G A A A A G A G G A A G A A G A A G A C C G A G T G A G G G A C G G G C T A T G G T T C A G A C C A A A T A T A A G

270

PFN1

A G T G C A A A T T G G A G C A A A C C T A C C T T C A C C T C T C C C G C C A C C C C A T C C T T C T G C A T T G C T T T C C A T C G A A C T C T G C A A A T T T G C A A T A G G G G A G G G A T T T T A A A A T T G C A T T T G C A A A G T T C G G T G  
T C A C G T T T A A C C T C G T T T G G G A T G G A A G T G G A G A G A G G C G G T G G G G G T A G G A A G A C T A A C G A A A G G T A G C T T G A G A C G T T T A A A C G T T A T C C C C T C C C T A A A A A T T T A A C G T A A A C G T T T C A A G C C A C

405

PFN1

T C T G G G C T G G C G A G T G G G G A G G G A G G A A T G G G A G T A G G C C C C G C C C T A C C G T C C T T T G C A A A T A A A A T C T A G C G G G C G G G G G G G G A G G A G C A G G A A G T G C C G T G C G A G G G C T G C T G C A C A G C G A G C  
A G A C C C G A C C G C T C A C C C C T C C C T C C C T T A C C C C T C A T C C G G G C G G G A T G G C A G G A A C G T T A T T T T A G A T C G C C C C G C C C C C C C C C T C C T C G T C C T T A C C G C C A C G C T C C C G A C G A C G T G T C G C T C G

540

PFN1

PFN1-201

G G A G C G C G G T C C G G A G C G G A G C G C T C C G C C T C C C C C G C C C G C C A G C C G A G C G A G C T C G A G C C A G T C C G C G C C C A G C A G C A G C C C G A G A G C A G C C C A G T A G C A G C C C A T G C C G G  
C C T C G C G C C A G G C C T G C C G T C G C G C A C G G G C T C A G A G G C G G A G G G G C G G G C G G T C G G C T C G A G C T C G G G T C A G G C C C G G G G T C G T C G T C G C G G C T C G T C G G G T C A T C G T C G C G G T A C C G G C C

675

PFN1

PFN1-201

M A G  
ENSE0000...  
PFN1-201

G T G G A A C G C C T A C A T C G A C A A C C T C A T G G C G G A C G G G A C C T G T C A G G A C G C G G C C A T C G T G G G C T A C A A G A C T C G C C C T C C G T C T G G G C C G C C G T C C C C G G A A A C G T T C G T C A A C A T C A C G G T A C T G C G A G G  
C A C C T T G G G A T G T A G C T G T T G G A T A C C G C T C C C T G G A C A G T C C T G C G C G G T A G C A C C G A T G T T C T G A G C G G G A G C A G A C C C G G C G C A G G G G C C T T T T G C A A G C A G T T G T A G T G C C A T G A C G C T C C

810

PFN1

PFN1-201

5 10 15 20 25 30 35 40  
W N A Y I D N L M A D G T C Q D A I V G Y K D S P S V W A A V P G K T F V N I T  
ENSE0001324890

PFN1-201

C C T G C G C G G T C C G G G C A C T G C T C C G G T T T G G A C C C T G A G G G A G G G A C T T G G G T G G G G C G G G C G C G G T T A G G G C G C G A G C G A G A G G C C C T G A C T G G G T G C T T G C C C T G G A A G C G G C G C G A A T G G C G G T G C A  
G G A C G C C A A G G C C C G T G A C G A G G C A A A C C T G G G A C T C C C T C C C T G A A C C A C C C C G C C G C C G C C A G A T C C C G C G T C G C T C T C C G G A C T G A C C A C G A A C G G G A C C T T G C C C G C G C T T A C C G C C G A C G T

945

PFN1

PFN1-201

PFN1-201

G T G A G T G G G T C C C T C A G T T G C C C G T A G G T C C T A T G C C C A G G C G G C G G C C C A T C C C G C C G G T A C C C C G C T T T C C G C A C G G G C G T T A C A T C C G G G C A C A G G G C G G G A G G G C G C G C C C G G T G C G G  
G C A C T A C C C A G G G A G T C A A C G G C A T C A G G A T A C G G G T C C G C C C G C G G G T A G G G C G G C G A T G G G C G A A A G G C G T G C C C C G C A A T G T A G G C C C G T G T C C C G C C C T C C C C G C C C G G G C C A C G C C

1080

PFN1

PFN1-201

PFN1-201

C G G C C A C T T C C G C C T C C C A G G C G G G C G G G A C G C G C C T A G T T T T A C T G G G A T T G G A T T G A G A G G G A C C C G G G A T C C T T G G A C C C C A G C T C C C G T C C G G T G C C A G C C C G C G T C C C T A C C A  
G C C G G G T G A A G C G G A G A G G G T C C C G C C C G C C C T G C G C G A G T C A A A A T G A C C C T A A C C T A A C T C T C C C T G G G C C C T A G G A A C T G G G G G T C G A G G G C A G G C C G A C G G T G G G C G C A G G A G A T G G T

1215

PFN1

PFN1-201

PFN1-201

T T G T T T C T C T G G T G C G G A A G G A G C C C A G G C G G T G G T C T T G G T C C C T T G C C A C C C T C T G T G G G C T T C T G C C C C T C T A A C T C C G T T A G A G A G G G C A G G C C A C A C G C C C C C A G C T A G C A C G T T G  
A A C A A A G A G A C C A C G C C T T C C C T C G G G T C C G C G A C C A G A A C A G G A A C G G G T G G A G A C A C C G A A G A C C G G G A G G A T T G A G G C A A T C T C C C G C T C C G T G G T G T G C G G G G G T C G A G T C G T G C A A C

1350

PFN1

PFN1-201

PFN1-201

G A T T C A A C A T T C C T G C G A G G C C A A T C C C G G A A G T C C C C T C G C C C T C C C T C C C G C C A T C C G G C G G G C C T G G A G C A G G G A A C T T T G T G A G A A G T T C T G A G A C A G C A T A A G C G A A A G T A T T G G T T A C T A C C G  
C T A A G T T G T A A G G A C G C T C C G G T T A G G G C C T T C A G G G A G C G G G A G G A A G G G C G G T A G G C C G C C C G G A C C T C G T C C C C T T G A A A C A C T C T T C A A G A C T C T G C G T A T T C G C T T T C A T A T A A C C A A A T G A T G G C

1485

PFN1

PFN1-201

PFN1-201

C T G C T C C C A C C A C C A T C T C C C T G T C C A C A C T G C C C G G A A G T G G G A G G G G A G C G G A A G T T C A A A A G G G G G G A A G G G G T T T C C G G C G G A G G G A C C G G A T G T G G G G C T T G G G G T G A A A G G G G A G G G G  
G A C G A G G G T G G T G T A G A G G G A C A G G T G T A C G G G C T T C A C C C C T C C C C T C G C C T T C A A G T T T T C C C C C C T T C C C C A A A G G C C C G C C C T C C C C T G G C T A C A C C C C G A A C C C A C T T T C C C C T C C C C C

1620

PFN1

PFN1-201

PFN1-201

GAAAGGTTCCCGGGTACCTAGACCCGAGAGCTGGCCGCGGCTGCGCCCTTCCACCTTCAAAGTTTTCCAACTTTCCCGAAAGCCCCAGGGGTCTGCTTCCCTCATCTCAGAGCAGAGATACCTGGAG  
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1755

PFN1

PFN1-201

PFN1-201

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GATTTGAGATCCAATGAACCTCTGGGTCGCGAGGCCGCGGATTGTGAGGACGCTTGGAACTGGTTTATTCCGTTTCAACGAAGAGAACGGAGCGGGCGGGGGAGGGGAAGGGGAGAGGCCGAAGACGAAAAG

1890

PFN1

PFN1-201

PFN1-201

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GACTTCCCTCAAGACTCGTAGGTTCCGAGGAGTGAATGGAGTACTGAGGAAATAAAGGACCAAAATGAAAGGGTAATTGTGACTGTAGATTTAGAGATCTCTCATACAGTAGGGAAGGAGGGACCAAGG

2025

PFN1

PFN1-201

PFN1-201

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TATAAGATCAAAGTCTTAGTACTAGAAAAGACGCTGATTGCAGGGTGTGAGGAGTCTCAAAGAGTGTCAAGTAACACACATGACTCATATATAAATATGAATCGGGGTGCCGCCACCAAGAGTCTTAC

2160

PFN1

PFN1-201

PFN1-201

Sanger Sequencing Primer

ACTAACTTGATGGGCGCTTG

PCR Forward

GAATCTTGGTGCCTGACTAACTTG

GAAAGACAGGTGGGCTTTGGAGAACACGGTGGGAATCTTGGTGCCTGACTAACTTGATGGGCGCTTGGTTCTCTTCCAGCCAGCTGAGGTGGGTGCTGTTGGCAAGACCGGTCAAGTTTTACGTGAAT  
CTTCTGTCCACCAGAAACCTCTTGTGCCACCTTAGAACCCAGTACTGATTGAACTACCCGCAACCAAGGAGAAGGTCGGTGCCTCCACCACAGGACCAACCGTTTCTGGCCAGTTCAAAAATGCACTTA

2295

PFN1

PFN1-201

PFN1-201

45 50 55 60  
P A E V G V L V G K D R S S F Y V N  
ENSE0000676461

Donor Template SNV -> REV

AAAATGCACTTA

Donor Template SNV -> REV

GGGCTGACACTTGGGGCCAGAAAATGTTTCGGTGTCCGGGACTCACTGCTGAGGATGGGAAATTTAGCATGGATCTTCTGACCAAGAGCACCGGTGGGGCCCCACCTTCAATGCTACTGTCACCAAGACTGAC  
CCCAGCTGTGAACCCCGGCTTTACAAGCCACTAGGCCCTGAGTGACGACGCTCCTACCCCTTAAATCGTACCTAGAAGCATGGTTCTCGTGGCCACCCGGGGTGGAAGTTACAGTGACAGTGGTTCTGACTG

2430

PFN1

PFN1-201

PFN1-201

65 70 75 80 85 90 95 100 105  
G L T L G G Q K C S V I R D S L L Q D G E F S M D L R T K S T G A P T F N V T V T K T D  
ENSE0000676461

Donor Template SNV -> REV

PAM Protospacer Sequence

PAM

SNV

CCCAGCTGTGAACCCCGGCTTTACAAGCCACTAGGCCCTGAGTGACGACGCTCCTACCCCTTAAATCGTACCTAGAAGCATGGTTCT

Donor Template SNV -> REV

CTTTCAAGCCACTAGGCC

gRNA Protospacer

AAGAGTGAGTTCTGAGTCTTACCCTTCCCTTAGCTCCAAGATCTCTAATGTACCGCCTTCTGGTAATCTTGAAGGTGCTTTTTGTGTGATTCCCAACATGAAGGGAGTCAGACCAAGTATTGTGTTCTTGTG  
TTCTCACTCAAGGACTCAGAAATGGGAAGGAAATCGAGTTCTAGAGATTACATGGCGGAAGACCATTAGAACTCCACGAAAAACACACTAAGGGGTTGTACTTCCCTCAGTCTGGTCATAACACAAGGAACAG

2565

PFN1

PFN1-201

PFN1-201

K  
EN...

TGCTGGATGCTGGAACACGGGATAGTCCCTCCATTCTGTCTCAGTTCCCTCATCTTGTAAATTCGAAGTTGCTGAACGACTGACATTACCTCTTAAATTACTTACTGCCTGAGCTCGGATTAGAACTGTTTCTAGGAG  
ACGACCTACGACCTTGTGCCCTATCAGGGAGGTAAAGACAGAGTCAAGGAGTAGAACATTAAGCTTCAAGGACTGACGTAATGGAGAATTTAATGAATGACGGAACCTCGAGCCTAATCTTTGACAAAAGATCCTC

2700

PFN1

PFN1-201

PFN1-201

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ATATCCATCTAACAAACCCAGAACTTAGTAGCTCAAGTAGCAAACCTCAAGAAAAAATCTTGGACCTCCACCGTACGTGTAGGTGTCGGGAAAGATCGGACTTGTGTACTTAGTTGTTCAGATACTCGGAAACTGG

2835

PFN1

PFN1-201

GTAGCTCAAGTAGCAAACCTCAAGAA  
PCR Reverse

PFN1-201

CCTAAGTTTTAGTCTGTTCCCTCTCCAGCGTTTAAAGCTTGATTTTCCCTCTTTTGAAGAACCTTATTGTTTTCAGGGTGACTGACAGCCTGCCTGTGTGGTGGGGGGCGGGTTGGGAGAGATGAGGTTGGGTTA  
GGATTCAAAAATCAGACAAGGAGAGGTCGCAAAATCGAACTAAAAGGAGAAAACCTTTTCGGAATAACAAAGTCCCACTGACTGTCGGACGGACACACACCACCCCGCCCAACCTCTCTACTCCAACCCAAT

2970

PFN1

PFN1-201

PFN1-201

CAGCCCCAGGGCTGGACAGCTGCTGAACAGCTGGCAGGGGGTGGAAATTGTGACACCTGGATCTTAGCCTCCTTTCTCTTCTCCTCCTCCAGCGCTAGTCTGCTGATGGGCAAGAAAGGTGCCACGGTGGT  
GTCGGGGTCCCGACCTGTCGACGACTTGTGACCGTCCCCACCTTAACACTGTGGACCTAGGATCGGAGGAAAGAGAAAGGAGGAGGATCGCGATCAGGACGACTACCCGTTTCTTCCACAGGTGCCACCA

3105

PFN1

PFN1-201

T 110 V L L M G K E G V H G G  
ENSE00001488299

PFN1-201

TTGATCAACAAGAAATGTTATGAAATGGCCTCCACCTTCGGCGTTCCAGTACTGACCTCGTCTGTCCCTTCCCTTCCAGCTCCCCACAGCTTTGACCCCTTTCTCCTCCCAACACACAAACATTTTA  
AACTAGTTGTTCTTTACAATACTTTACCGAGGGTGGAGCCGCAAGGGTCACTGACTGGAGCAGACAGGGAAGGGGAGTGGCGAGGGGTGTCGAAACGTGGGAAAGGAGGGGTATGTGTGTGTTTGGTAAAT

3240

PFN1

PFN1-201

L 125 I N K K C Y E M A S H L R R S Q Y 140  
ENSE00001488299  
PFN1-201

TTTTTGGGCCATTACCCCATACCCCTTATTGCTGCCAAAACCACATGGGCTGGGGGCCAGGGCTGGATGGACAGACACCTCCCCCTACCCATATCCCTCCCGTGTGTGGTTGGAAAACCTTTGTTTTTGGGGT  
AAAAAACCCGGTAATGGGGTATGGGGAATAACGACGGTTTTGGTGTACCCGACCCCGGTCGACCTACCTGTCTGTGGAGGGGATGGGTATAGGAGGGCACACACCAACCTTTTGAACAAAAACCCCA

3375

PFN1

PFN1-201

TTTTTTTTCTGAATAAAAAAGATTCTACTAACAA 3'  
3410  
AAAAAAAAAGACTTATTTTTCTAAGATGATTGTT 5'  
PFN1  
PFN1-201

Feature	Location	Size	Color	Strand	Type
<b>PFN1</b>	1 .. 3410	3410 bp	■	→	gene
/note	= gene <a href="#">ENSG00000108518</a> Protein coding				
<b>PFN1-202</b>	1 .. 2369	2369 bp	■	→	prim_transcript
/note	= primary transcript <a href="#">ENST00000572383</a>				
<b>PFN1-202</b>	43 .. 2369	2327 bp	■	→	CDS
▶ 3 segments = 497 bp					
/note	= coding sequence <a href="#">ENSP00000460363</a>				
/translation	= MHSRPRRRRRRGGHTRRRPPVLPFGG,,GSGGARAAAQRAEPRSGRQRVPRALRLPPPASRGSSSPVIRGPPSSSAESSPSSSAMAGWNAIYIDNLMADGTCQDAAIIVGYKDPSPVWAAVPGKTFVNIT,,PAEVGVLVKGDRSSFY YNSLHGGKCSVIRDSLLQDGEFSM				
<b>PFN1-201</b>	532 .. 3410	2879 bp	■	→	prim_transcript
/note	= primary transcript <a href="#">ENST00000225655</a>				
<b>PFN1-201</b>	668 .. 3162	2495 bp	■	→	CDS
▶ 3 segments = 423 bp					
/note	= coding sequence <a href="#">ENSP00000225655</a>				
/translation	= MAWNAIYIDNLMADGTCQDAAIIVGYKDPSPVWAAVPGKTFVNIT,,PAEVGVLVKGDRSSFYVNGLTGGQKCSVIRDSLLQDGEFSMDLRTKSTGGAPTFNVTVTKTDK,,TLVLLMGKEGVHGGLINKKCYEMASHLRRSQ Y40 amino acids = 15.1 kDa				
<b>PFN1-203</b>	1593 .. 3395	1803 bp	■	→	prim_transcript
/note	= primary transcript <a href="#">ENST00000574872</a>				
<b>PFN1-203</b>	2218 .. 3162	945 bp	■	→	CDS
▶ 2 segments = 315 bp					
/note	= coding sequence <a href="#">ENSP00000465019</a>				
/translation	= MGAWFLQPAEVGVLVKGDRSSFYVNGLTGGQKCSVIRDSLLQDGEFSMDLRTKSTGGAPTFNVTVTKTDK,,TLVLLMGKEGVHGGLINKKCYEMASHLRRSQ* 104 amino acids = 11.4 kDa				
<b>Donor Template SNV -&gt; REV</b>	2284 .. 2383	100 bp	■	↔	misc_feature
<b>PAM</b>	2313 .. 2315	3 bp	■	↔	misc_feature
<b>Protospacer Sequence</b>	2316 .. 2335	20 bp	■	↔	misc_feature
<b>SNV</b>	2320 .. 2320	1 bp	■	↔	misc_feature
/note	= WT=T SNV=G				
<b>ENO3-204</b>	2852 .. 970	1529 bp	■	←	prim_transcript
/note	= primary transcript <a href="#">ENST00000519266</a> Protein coding				
<b>ENO3-209</b>	6158 .. 48204,965,359 bp		■	←	prim_transcript
/note	= primary transcript <a href="#">ENST00000520221</a> Protein coding				
<b>ENO3</b>	8069 .. 48204,963,608 bp		■	←	gene
/note	= gene <a href="#">ENSG00000108515</a> Protein coding				

Primer	Length	Binding Sites	Tm	Date Added
✓ <b>PCR Forward</b> /sequence = GAATCTTGGTGCACTGACTAACTTG 44% GC / 7672.1 Da	25-mer	2193 .. 2217	58°C	Jun 14, 2022
✓ <b>Sanger Sequencing Primer</b> /sequence = ACTAACTTGATGGGCGCTTG 50% GC / 6148.1 Da	20-mer	2209 .. 2228	58°C	Jun 14, 2022
✓ <b>Donor Template SNV -&gt; REV</b> /sequence = TCTTGGTACGAAGATCCATGCTAAATCCCCATCCTGCAGCAGTGAGTCCCGGATCACCGAACATTTCTGGCCCCAAGTGCAGCCATTACGTA 51% GC / 30,586.8 Da	100-mer	2284 .. 2383	78°C	Jun 14, 2022
✓ <b>gRNA Protospacer</b> /sequence = CCCGGATCACCGAACCTTTC 60% GC / 5997.9 Da	20-mer	2316 .. 2335	52°C	Jun 14, 2022
✓ <b>PCR Reverse</b> /sequence = AAGAACTCAAACGATGAACTCGATG 40% GC / 7692.1 Da	25-mer	2728 .. 2752	58°C	Jun 14, 2022