

## Product datasheet for **RG201785**

### **FEN1 (NM\_004111) Human Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	FEN1 (NM_004111) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	FEN1
Synonyms:	FEN-1; MF1; RAD2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG201785 representing NM_004111 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGAATTCAAGGCTGGCCAACTAATTGCTGATGTGGCCCCAGTGCCATCCGGGAGAATGACATCA  
AGAGCTACTTTGGCCGTAAGGTGGCCATTGATGCCTCTATGAGCATTTATCAGTTCCTGATTGCTGTTCCG  
CCAGGGTGGGATGTGCTGCAGAATGAGGAGGGTGAAGCACCAGCCACCTGATGGGCATGTTCTACCGC  
ACCATTTCGATGATGGAGAACGGCATCAAGCCCGTGTATGTCTTTGATGGCAAGCCGCCACAGCTCAAGT  
CAGGCGAGCTGGCCAAACGCAGTGAAGCGGGCTGAGGCAGAGAAGCAGCTGCAGCAGGCTCAGGCTGC  
TGGGGCCGAGCAGGAGGTGGAAAAATCACTAAGCGGCTGGTGAAGGTCCTAAGCAGCACAATGATGAG  
TGCAAACATCTGCTGAGCCTCATGGGCATCCCTTATCTTGATGCACCCAGTGAGGCAGAGGCCAGCTGTG  
CTGCCCTGGTGAAGGCTGGCAAAGTCTATGCTGCGGCTACCGAGGACATGGACTGCCTCACCTTCGGCAG  
CCCTGTGCTAATGCGACACCTGACTGCCAGTGAAGCCAAAAGCTGCCAATCCAGGAATCCACCTGAGC  
CGGATTCTGCAGGAGCTGGCCGTAACCCAGAACAGTTTGTGGATCTGTGCATCTGCTAGGCAAGTACT  
ACTGTGAGAGTATCCGGGTATTGGGCCAAGCGGGCTGTGGACCTCATCCAGAAGCACAAGAGCATCGA  
GGAGATCGTCCGGCGACTTGACCCCAACAAGTACCCTGTGCCAGAAAATTGGCTCCACAAGGAGGCTCAC  
CAGCTCTTCTTGAACCTGAGGTGCTGGACCCAGAGTCTGTGGAGCTGAAGTGGAGCGGCAAAATGAAG  
AAGAGCTGATCAAGTTCATGTGTGGTGAAGAGCAGTTCTCTGAGGAGCGAATCCGCAAGTGGGGTCAAGAG  
GCTGAGTAAGAGCCGCCAAGGCAGCACCAGGGCCGCTGGATGATTTCTTCAAGGTGACCGGCTCACTC  
TCTTCAGTAAGCGCAAGGAGCCAGAACCAGGGATCCACTAAGAAGAAGGCAAGACTGGGGCAGCAG  
GGAAGTTTAAAGGGGAAAA

**ACCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG201785 representing NM\_004111  
 Red=Cloning site Green=Tags(s)

MGIQGLAKLIADVAPSAIRENDIKSYFGRKVAIDASMSIYQFLI AVRQGGDVLQNEEGETTSHLMGMFYR  
 TIRMMENGIKPVYVFDGKPPQLKSGELAKRSERRAEAEKQLQQAQAAGAEQEVEKFTKRLVKVTKQHND  
 CKHLLSLMGIPYLDAPSEAEASCAALVKAGKYAAATEDMDCLTFGSPVLMRHLTASEAKKLP IQEFHLS  
 RILQELGLNQEQFV DLCILLGSDYCESIRGIGPKRAVDLIQKHKSIEEIVRRLDPNKYVPENWLHKEAH  
 QLFLEPEVLDPE SVELKWSEPNEEELIKFMCGEKQFSEERIRSGVKRLSKSRQGSTQGRLLDDFFKVTGSL  
 SSAKRKEPEPKGSTKKKAKTGAAGKFKRGK

TRTRPLE - GFP Tag - V

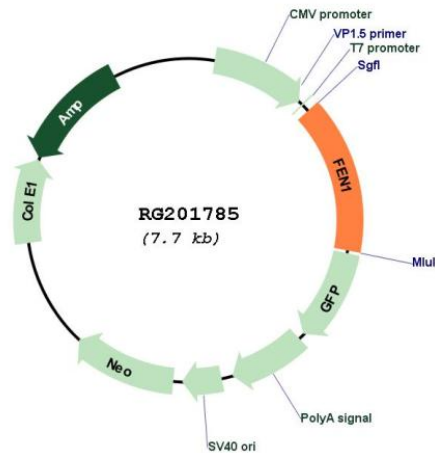
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:**

NM\_004111

<b>ORF Size:</b>	1140 bp
<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_004111.6</a>
<b>RefSeq Size:</b>	2265 bp
<b>RefSeq ORF:</b>	1143 bp
<b>Locus ID:</b>	2237
<b>UniProt ID:</b>	<a href="#">P39748</a>
<b>Cytogenetics:</b>	11q12.2
<b>Domains:</b>	HhH2, XPG_N, XPG_I
<b>Protein Families:</b>	Druggable Genome, Stem cell - Pluripotency
<b>Protein Pathways:</b>	Base excision repair, DNA replication, Non-homologous end-joining

**Gene Summary:**

The protein encoded by this gene removes 5' overhanging flaps in DNA repair and processes the 5' ends of Okazaki fragments in lagging strand DNA synthesis. Direct physical interaction between this protein and AP endonuclease 1 during long-patch base excision repair provides coordinated loading of the proteins onto the substrate, thus passing the substrate from one enzyme to another. The protein is a member of the XPG/RAD2 endonuclease family and is one of ten proteins essential for cell-free DNA replication. DNA secondary structure can inhibit flap processing at certain trinucleotide repeats in a length-dependent manner by concealing the 5' end of the flap that is necessary for both binding and cleavage by the protein encoded by this gene. Therefore, secondary structure can deter the protective function of this protein, leading to site-specific trinucleotide expansions. [provided by RefSeq, Jul 2008]