

## Product datasheet for **RC205920**

### Neurofilament (NEFL) (NM\_006158) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Neurofilament (NEFL) (NM_006158) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	NEFL
Synonyms:	CMT1F; CMT2E; CMTDIG; NF-L; NF68; NFL; PPP1R110
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC205920 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGTTCCTTCAGCTACGAGCCGTA  
 TACTACTCGACCTCCTACAAGCGGCGCTACGTGGAGACGCCCCGGG  
 TGCACATCTCCAGCGTGCAGCGGCTACAGCACCGCACGCTCAGCTTACTCCAGCTACTCGGCGCCGGT  
 GTCTTCTCGCTGTCCGTGCGCCGAGCTACTCCTCCAGCTCTGGATCGTTGATGCCAGTCTGGAGAAC  
 CTCGACCTGAGCCAGGTAGCCGCCATCAGCAACGACCTCAAGTCCATCCGCACGCAGGAGAAGGCGCAGC  
 TCCAGGACCTCAATGACCCTTCCGACGCTTATCGAGCGGTGCACGAGCTGGAGCAGCAGAACAAGGT  
 CCTGGAAGCCGAGCTGCTGGTGTGCGCCAGAAGCACTCCGAGCCATCCCCTTCCGGGCGCTGTACGAG  
 CAGGAGATCCGCGACCTGCGCTGGCGGCGGAAGATGCCACCAACGAGAAGCAGGCGCTCCAGGGCGAGC  
 GCGAAGGGCTGGAGGAGACCCTGCGCAACTGCAGGCGCGCTATGAAGAGGAGGTGCTGAGCCGCGAGGA  
 CGCCGAGGGCCGGCTGATGGAAGCGCGCAAAGGCGCCGACGAGGGCGCGCTCGCTCGCGCCGAGCTCGAG  
 AAGCGCATCGACAGCTTATGAGCAGAAATCTCTTTTCTGAAGAAAGTGCACGAAGAGGAGATCGCCGAAC  
 TGCAGGCGCAGATCCAGTACGCGCAGATCTCCGTGGAGATGGACGTGACCAAGCCCGACCTTTCCGCCGC  
 GCTCAAGGACATCCGCGCGCAGTACGAGAAGCTGGCCGCCAAGAACATGCAGAACGCTGAGGAATGGTTC  
 AAGAGCCGCTTACCGTGTGACCGAGAGCGCCGCAAGAACCACCGACGCGCTGCGCGCCGCAAGGACG  
 AGGTGTCCGAGAGCCGTGCTGCTCAAGGCCAAGACCTGGAATCGAAGCATGCCGGGCGATGAATGA  
 AGCGCTGGAGAAGCAGCTGCAGGAGCTGGAGGACAAGCAGAACCGCGACATCAGCGCTATGCAGGACAG  
 ATCAACAATAGAAAAATGAATTGAGGACCACAAAGAGTGAATGGCAGCATACTAAAAGAATACCAAG  
 ACCTCCTCAACGTGAAGATGGCTTTGGATATTGAGATTGAGCTTACAGGAACTCTTGGAAAGCGAGGA  
 GACCCGACTCAGTTTACCAGCGTGGGAAGCATAACCAGTGGCTACTCCAGAGCTCCAGGTCTTTGGC  
 CGATCTGCCTACGGCGGTTTACAGACCAGCTCCTATCTGATGTCCACCCGCTCCTTCCCGTCTACTACA  
 CCAGCCATGTCCAAGAGGAGCAGATCGAAGTGGAGGAAACCATTGAGGCTGCCAAGGCTGAGGAAGCCAA  
 GGATGAGCCCCCTCTGAAGGAGAAGCCGAGGAGGAGGAGAAGGACAAGGAAGAGGCCGAGGAAGAGGAG  
 GCAGCTGAAGAGGAAGAAGCTGCCAAGGAAGAGTCTGAAGAAGCAAAAGAAGAAGAAGGAGGTGAAG  
 GTGAAGAAGGAGAGGAACCAAGAAGCTGAAGAGGAGGAGAAGAAAGTTGAAGGTGCTGGGAGGAACA  
 AGCAGCTAAGAAGAAAGAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC205920 protein sequence  
 Red=Cloning site Green=Tags(s)

MSSFSYEPYYSTSYKRRYVETPRVHISSVRSYSTARSAYSSYSAPVSSLSVRRSYSSSSGSLMPSLEN  
 LDLSQVAAISNDLKSIRTQEKAQLQDLNDRFASFIERVHELEQQNKVLEAELLVLRQKHSEPSRFRALYE  
 QEIRDRLAAEDATNEKQALQGEREGLEETLRNLQARYEEEEVLSREDAEGRLMEARKGADEAALARAELE  
 KRIDSLMDEISFLKKVHEEEIAELQAQIQYAQISVEMDVTKPDL SAALKDIRAQYEKLAAKNMQNAEEWF  
 KSRFTVL TESAANKNTDAVRAAKDEVSESRLLKAKTLEIEACRGMNEALEKQLQELEDKQNDISAMQDT  
 INKLENELRRTTKSEMARYLKEYQDLLNVKMALDIEIAAYRKLLEGEETRLSFTSVGSITSGYSQSSQVFG  
 RSAYGGLQTSSYLMSTRSFPSSYYTSHVQEEQIEVEETIEAAKAEAKDEPPSEGEAEKEEKDKEAEKEE  
 AAEKEEAAKEESEEAEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEE  
 AAEKEEAAKEESEEAEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEEKEE

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

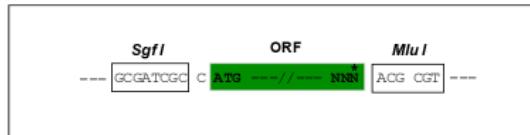
[https://cdn.origene.com/chromatograms/mk6276\\_f01.zip](https://cdn.origene.com/chromatograms/mk6276_f01.zip)

**Restriction Sites:**

Sgfl-Mlul

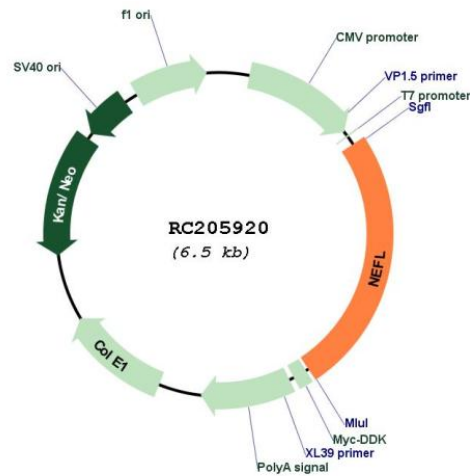
## Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

## Plasmid Map:



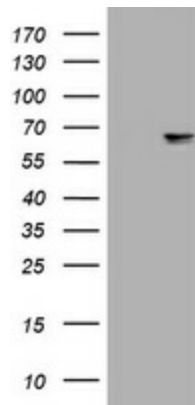
ACCN: NM\_006158

ORF Size: 1629 bp

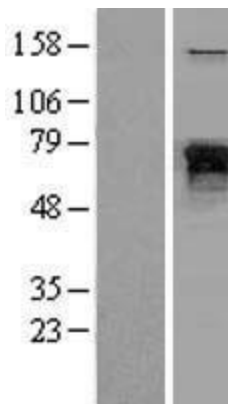
<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts 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_006158.5</a>
<b>RefSeq Size:</b>	3854 bp
<b>RefSeq ORF:</b>	1632 bp
<b>Locus ID:</b>	4747
<b>UniProt ID:</b>	<a href="#">P07196</a>
<b>Cytogenetics:</b>	8p21.2
<b>Domains:</b>	filament, filament_head
<b>Protein Families:</b>	Druggable Genome, ES Cell Differentiation/IPS
<b>Protein Pathways:</b>	Amyotrophic lateral sclerosis (ALS)
<b>MW:</b>	61.5 kDa

**Gene Summary:**

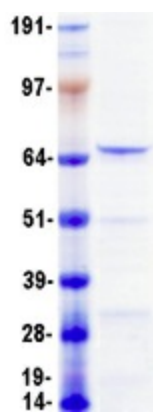
Neurofilaments are type IV intermediate filament heteropolymers composed of light, medium, and heavy chains. Neurofilaments comprise the axoskeleton and they functionally maintain the neuronal caliber. They may also play a role in intracellular transport to axons and dendrites. This gene encodes the light chain neurofilament protein. Mutations in this gene cause Charcot-Marie-Tooth disease types 1F (CMT1F) and 2E (CMT2E), disorders of the peripheral nervous system that are characterized by distinct neuropathies. A pseudogene has been identified on chromosome Y. [provided by RefSeq, Oct 2008]

**Product images:**


HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY NEFL (Cat# RC205920, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-NEFL (Cat# [TA801223]). Positive lysates [LY416829] (100ug) and [LC416829] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY416829]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205920 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified NEFL protein (Cat# [TP305920]). The protein was produced from HEK293T cells transfected with NEFL cDNA clone (Cat# RC205920) using MegaTran 2.0 (Cat# [TT210002]).