

Product datasheet for **MG216282**

Nek1 (NM_175089) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Nek1 (NM_175089) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Nek1
Synonyms:	D8Ertd790e; kat
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG216282 representing NM_175089 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGAAGTATGTGAGACTGCAGAAGATTGGAGAAGGTTCAATTTGGAAAAGCTGTTCTTGTAAATCGA
CAGAGGATGGCAGACATTATGTCATCAAGGAAATTAACATCTCAAGAATGTCTGATAAAGAAAGGCAAGA
ATCAAGGAGAGAAGTTGCTGTATTGGCAAACATGAAGCATCCAAATATTGTCCAATATAAAGAATCATT
GAAGAAAATGGCTCTCTACATAGTAATGGATTACTGTGAAGGAGGTGATTTGTTTAAACGAATAAATG
CTCAGAAAAGGCGCTCTGTTTCAAGAAGACCAGATTTTGGACTGGTTTGTGCAGATATGTTTGGCTCTGAA
GCATGTACATGATAGAAAATTCTTCCAGGAGACATAAAGTCACAGAACATATTTCTAACCAAGATGGG
ACAGTGCAGCTTGGAGATTTTGGAAATGCTCGAGTTCTTAATAGTACTGTAGAGCTGGCTCGAACTTGCA
TAGGCACTCCATACTACTTGTCACTGAAATCTGTGAAAACAAGCCTTATAACAATAAAGTGACATTTG
GGCTTTGGGCTGTGTCCTTATGAGTTGTGTACACTTAAACATGCATTTGAAGCTGGAAACATGAAAAAC
CTGGTACTGAAGATAATCTCCGGATCCTTCTCCAGTGTCTCCACATTACTCCTATGATCTCCGACGT
TGCTGTCTCAGTTATTTAAAAGAAATCCTAGGGATAGACCATCAGTCACTCCATATTGGAGAAAGGTTT
TATAGCTAAACGAATCGAAAAGTTTCTCTCCCTCAGCTTATTGCAGAAGAATTTTGTCTAAAAACACTT
TCAAAGTTTGGACCACAGCCTCTCCAGGTAAAAGACCAGCATCAGGACAAGGTGTCAGTTCTTTTGTCC
CTGCTCAGAAAATCACAAAGCCTGCTGCTAAATACGGAGTGCCTTAAACATATAAGAAGTATGGAGATAA
AAAGTTACTTGAGAAAAAACACCCCAAAACATAAACAGGCCCATCAAATTCCTGGAAGAAAATGAAT
TCTGGAGAAGAAAGGAAGAAAATGTCTGAGGAAGCAGCAAAAAAAGAAGTTGGAATTTATTGAGAAAAG
AAAAGAAGCAAAAGGATCAGATTAGGTTCTGAAGGCTGAGCAGATGAAGCGCAAGAGAAGCAGCGGTT
GGAGAGGATAAATAGGGCCAGGGAACAAGGATGGAGGAATGTTTTAAGGGCTGGTGAAGCGGTGAAGTA
AAGGCTTCTTTTTTGGCATTGGAGGGGCTGTCTCCATCACCGTGTCTCTCGAGGCCAGTATGAAC
ATTACCATGCCATTTTTGACCAATGCAGCGGCTAAGAGCAGAAGATAATGAAGCAAGATGGAAGGGGGG
AATCTATGGTCGATGGCTCCAGAAAAGGCAAAAAGGACACTTAGTGTAGAGAGACCAACCAAGTGAA



[View online »](#)

GAATTCCTACAGCGTAAACGAGAAGCTATGCAGAATAAAGCCCGAGCCGAAGGACACGTGGTTTATTTGG
CAAGACTGAGGCAAAATAAGACTACAAAATTTTAAATGAGCGCCAACAGATTAAGCCAAACTTCGTGGTGA
GAATAAAGAAGCTGATGGTACCAAAGGACAAGAAGCAACTGAAGAGACTGACATGAGGCTCAAAAAGATG
GAGTCACTTAAGGCGCAAAACAAATGCACGTGCTGCTGACTAAAAGAACAGCTGGAGCGAAAAAGAAAGG
AAGCTTATGAAAGAGAAAAGAAAGTATGGGAAGAACATTTGGTGGCGAGGGTAAAAAGCTCAGATGTTCC
TCTGCCTTTGAACTTCTTGAACAGGTGGTCTCCATCAAAGCAGCAGGTGAAGCCTGTCATTTCTGTG
ACTTCAGCTTTGAAAGAAGTGGGCTGGATGGAAGTTTAACTGATACCCAGGAAGAAGAAATGGAAAAGA
GTAAACAGTGCTATTTCAAGTAAGCGAGAAATCCTGCGTAGGCTAAATGAAAATCTTAAAGCTCAAGAGGA
TGAAAAGGAAAAGCAGCATCACTCAGGTTCTTGTGAGACCCTGGTGCACAAAGATGAGAGAGAGTATGAG
ACAGAAAATGCCATTTCTCTGATCGCAAGAAGTGGGAGATGGGAGGTCAGCTTGTGATTCTCTCGATG
CAGTGACACTGGATACATCCTTCTGCAACCGAAAAACATACTGTGGGAGAGGTTATTAATTAGATTC
TAATGGCTCTCCAAGAAAAGTCTGGGGAAAAACCCTACAGATTCTGTGCTGAAGATACTGGAGAAGCT
GAATTACAGCTACAGACAGAACTACTAGAAAACACATCTTTAAAAGTGAGGTTTATGCTGAAGAGGAGA
ACTACAAACCCTTACTTACTGAAGAAGAGAATCTGCAGTGCATTTCAAAGAAAATAAATCCATCAGCTAC
TGTTGATTCTACTGAAACGAAAAGTCCAAGTTTACTGAGGTGTCTCCACAAATGTCAGAAGGAAATGTG
GAAGAACCTGATGATTTGGAAACAGAAGTTCTACAAGAGCCAAGTAGCACACACAGATGGGAGTTTGC
CACCTGTTCTTAATGATGTGTGGACTAGAGAGAAGGAAGCAGCTAAGGAACTGAGTTGGAAGATAAGGT
TGCTGTGCAGCAGAGTGAAGTTTGTGAAGATAGAATCCAGGGAACGTGGACCAATCCTGTAAGGATCAG
AGAGATCCTGCAGTAGACGATTCTCCGAGTCTGGCTGTGATGTAGAGAAGTCAGTACAGCCAGAATCGA
TTTTCCAGAAAGTGGTTCATTCTAAGGACTTGAACCTAGTTTCAGGCAGTTCATTGCTCACCAGAAGAACC
AATTCGAATTCGATCTCACTCTGATTCTCCACCAAAAACCTAAGAGCAAGAATTCCTTACTGATTGGACTT
TCAACTGGTCTGTTTGTGCAAAACAATCCAAAGATGCTGAGGACCTGCTCACTCCAGATCTTTCCAAGC
TGTTCAGAACCCTAATGGACGTTCCCACTGTGGGGACGTTTCAAGACAGTCTTGAAATCGATGAGCT
GGAAGATGAACCAATTAAGAAGGGCCTTCTGATTCCGAAGACACTGTATTTGAAGAAAAGTACACAGAT
TTACAAGAGCTTCAGGCCTCAATGGAGCAGCTGCTTAGGGAGCAACCAGGTGACGAATACAGTGAGGAGG
AAGAGTCTGTTTTAAAAAGCAGCGATGTGGAGCAGACAGCAAGAGGGACAGATGCCCCAGACGAGGAGGA
CAACCCAGCAGCGAAAGCGCCCTGAACGAGGAATGGCACTCAGATAATAGTGACGCTGAGACCACTAGT
GAATGTGAATATGACAGTGTCTTTAACCATTTAGAGGAACTAAGACTTCACTTGGAGCAAGAAATGGGCT
TTGAAAAGTTCTTTGAGGTTTATGAGAAAAGTAAAGGCTATTCATGAGGATGAAGATGAAAATATTGAAAT
TTGTTCAACAATAGTTGAGAATATTTGGGCAATGAGCACCAGCATCTCTATGCCAAGATTCTGCATTTA
GTCATGGCAGATGGAGCCTATCAGGAAGATAATGATGAA

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >MG216282 representing NM_175089
 Red=Cloning site Green=Tags(s)

MEKYVRLQKIGEGSFGKAVLVKSTEDGRHYVIKEINISRMSDKERQESRREVAVLANMKHPNIVQYKESF
 EENGLYIVMDYCEGGDLFKRINAQKGFQEDQILDWVQICLALKVHDKILHRDIKSQNIPLTKDG
 TVQLGDFGIARVNSTVELARTCIGTPYYLSPEICENKPYNNKSDIWAIGCVLYELCTLKHAFEAGNMKN
 LVLKIIISGSFPPVSPHYSYDLRSLLSQLFKRNPDRPSVNSILEKGFIAKRIEKFLSPQLIAEEFCLKTL
 SKFGPQLPGKRPASGQGVSSFVPAQKITKPAKYGVPLTYKKGDKLLEKPPPKHKQAHQIPVKMKN
 SGEERKKMSEEAACKRRLFEIEKEKKQKDQIRFLKAEQMKRQEQRLERINRAREQGRNVLRAGGSGEV
 KASFFGIGGAVSPSPSPRGQYEHYHAIFDQMQRLEADNEARWGGIYGRWLPERQKGLHAVERANQVE
 EFLQRKREAMQNKARAEGHVYVYLARLRQIRLQNFNERQKAKLRGENKEADGKQGEATEETDMRLKMM
 ESLKAQTNARA AVLKEQLERKRKEAYEREKKVWEEHLVARVKSSDVPLLELLETGGSPSKQVQKPVISV
 TSALKEVGLDGLSDTQEEEMKSNSAISSKREILRRLNENLKAQEDEKEKHHSKSCETVGHKDEREYE
 TENAIISSDRKKWEMGGQLVIPLDAVTLDTFSATEKHTVGEVIKLDNNGSPRKVWGNPTDVLKILGEA
 ELQLQTELENTSFKSEVYAEENYKPLLTEENLQCSISKEINPSATVDSTETKSPKFTVSPQMSEGNV
 EEPDDLETEVLQEPSSTHTDGLSPPVLNDVWTRKEAAKETELEDKVVAVQSEVCEDRIPGNDVQSCDKDQ
 RPAVDDSPQSGCDVEKSVQPEIFQKVVHSDLNLVQAVHCSPEEPIRSHSDSPPKTKSKNSLLIGL
 STGLFDANNPKMLRTCSLPDL SKLFRITLMDVPTVGDVHQDSLEIDELEDEPIKEGPSDESDTVFEETD
 LQELQASMEQLLREQPGDEYSEEEESVLKSSDVEQTARGTDAPDEEDNPSSESALNEEWSHSDNSDAETTS
 ECEYDSVFNHLEELRLHLEQEMGFKEFFEVYEVKVAIHEDEDENIEICSTIVENILGNEHQHLYAKILHL
 VMADGAYQEDNDE

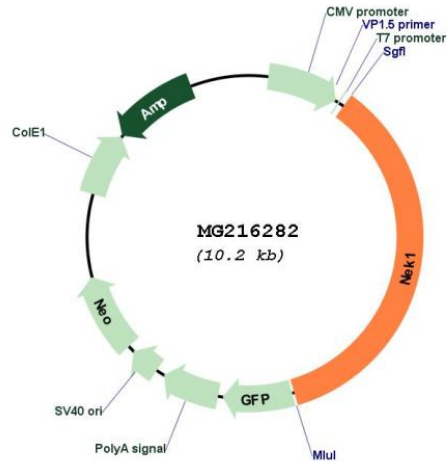
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_175089

ORF Size: 3609 bp

OTI Disclaimer: 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. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: 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).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
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.

RefSeq: [NM_175089.4](#), [NP_780298.2](#)

RefSeq Size: 4264 bp

RefSeq ORF: 3612 bp

Locus ID: 18004

UniProt ID: [P51954](#)

Cytogenetics: 8 30.91 cM

Gene Summary:

Phosphorylates serines and threonines, but also appears to possess tyrosine kinase activity (PubMed:1382974). Involved in DNA damage checkpoint control and for proper DNA damage repair (PubMed:18843199). In response to injury that includes DNA damage, NEK1 phosphorylates VDAC1 to limit mitochondrial cell death (By similarity). May be implicated in the control of meiosis (PubMed:1382974). Involved in cilium assembly (By similarity). [UniProtKB/Swiss-Prot Function]