

## Product datasheet for **MR209359**

### Neil3 (NM\_146208) Mouse Tagged ORF Clone

#### Product data:

|                           |                            |
|---------------------------|----------------------------|
| Product Type:             | Expression Plasmids        |
| Tag:                      | Myc-DDK                    |
| Symbol:                   | Neil3                      |
| Synonyms:                 | AI449477; BC034753; C85903 |
| Mammalian Cell Selection: | Neomycin                   |
| Vector:                   | pCMV6-Entry (PS100001)     |
| E. coli Selection:        | Kanamycin (25 ug/mL)       |



**ORF Nucleotide Sequence:** >MR209359 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCGCGATCGCC

ATGGTGAAGGCCAGGGGTGACACTGAATGGAGAGAAGATCCGGGCACGAGTGCTACCGGGGCAGGCGG  
 TGACTGGCGTGCGGGGACAGCTCTGCAGAGCCTCCTGGGCCCTGCCATGTCCCTGCCGCTCCCCGGC  
 TGATGTCGCTACCTCGGCTGCTCCAATGAATGCTAAGGATTCTGGCTGGAAGCTCTTGAGACTGTTAAT  
 GGATATGTTTACAGTGGCGTGGAAACCTTAGGGAAGGAGCTGTTTATGTACTTTGGCCACAGAGCTTTAC  
 GGATTCATTTCGGAATGAAAGGCTCCATCTTGATTAACCCACGGGAGGGTGAGAACAGAGGTGGGGCTTC  
 TCCAGCCTTGGCGGTGCACTCACCAGAGACTTGATCTGCTTCTATGACTCTTCAGTAGAAGCTCAGAAAT  
 TCGGTGGAAGCCAAACAGAGAGTCAGAGAGATGGAAGAGTTGGATATATGTTCCACAAAGTTCAGTTTCT  
 CAAGAGCAGAGAGTGAAGTAAAAAGCAGGGAGATCGGATGCTGTGTATGTGTGTTGCTGGATCAGAGGT  
 GTTGCTGGCGTGGGCAACATCATAAAAATGAAGCACTCTTGACAGTGGTCTTCATCCGGCTGTTAAG  
 GTGTGTCAACTATCAGACAAACAGGCCCGTCACCTTGGAAGATGACTCGGGATTTACGATTCTCTTCT  
 ACAGGTGCTGTAAGCAGGATCTGCCATTTCTAAACACTGTAAGGTTTACAAGCGTCTCAACTGTGGTCA  
 GTGCCACAGCAAAATTAAGTGTGTGCTGCTTTGGGAGAACAGCAGGATGACATATTTCTGTCTCACTGT  
 CAGAAAGAAAACCTCAACGTGTTCAAGTATGCCAGCTGCCAACAGAAACACTGAAATCAGCTGGACTC  
 CTAGGGGAGAGGATTGCTTACGGACTCAGTGGCTCGGAAGTCTGAAGAGCAGTGGTCTGTGCGGTTTG  
 TACTCTCATAAACAGACCCTCGGCTAAGGCTGTGATGCTTGTGACCACAAGGCCTCTGGATTCACTG  
 CTCAAGAATAGAGAAAATTCATTGCCTTCAACAACCTAGTGAAGTACCCTTGAATAACTTTGAGAACA  
 CACACACTGAAGTAAAGATCAACAGGAAAACCTGCGTTTGAAATACGACCCTTGTGTTGACTGATTTAAG  
 CAATAAATCCAGTCTTTGGCCAGAAAGAAAAGAGCAAAACACACAATAGATGGGGAATCTCAAAATGTTT  
 CTCCCTACAGACATAGGTTTTAGTGATTACAGCACCCCTCCAAAGAAGGAATAAACTATATAACTCAAC  
 CATCCAATAAGGTAACATATCACCTACAGTTTGTGCCAGTCTAAATTATTTAGTTCAGCACATAAAAA  
 ATTCAAACAGCTCACACTTCTGCAACAGAACTTAAAGTTACAACCTCTGGACTTTCTAACAGTGAACCT  
 CAAACCAATAGGACACGTGGCCATCATTCCAAAAGTATGGCAGCCCTCTGTGCAAGATGCACACCGCC  
 GCTGTGTTCTCCGAGTTGTGAGGAAAGATGGAGAAAACAAGGGGAGGCAGTTTTATGCCTGTTCTCTGCC  
 GAGAGGAGCACAGTGGGATTTTTGAATGGGCAGACCTGCTTCCCGTTCTGCAACATGGCAAGCGC  
 TCCATTATGAAACTGTGCTGAAGATTGGACCTAATAATGGGAAGAATTTTTTGTATGCTCTTTGGAGA  
 AAGAAAAGCAGTGAATTTTTTCCAGTGGGCCGAAAATGGACCAGGAATGGAATTTGTTCCAGGATGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR209359 protein sequence  
 Red=Cloning site Green=Tags(s)

MVEPGCTLNGEKIRARVLPQAVTGVRGTALQSLLPAMSPAASPADVATSAAPMNAKDSGWKLLRLFN  
 GYVYSGVETL GKELFMYFGHRALRIHFGMKGSILINPREGENRGGASPALAVQLTRDLICFYDSSVELRN  
 SVESQQRVREMEELDICS PKFSFSRAESEVKKQGDRLCDVLLDQRVLPVGNIIKNEALFDSGLHPAVK  
 VCQLSDKQARHLVKMTRDFSILFYRCKAGSAISKHCKVYKRPNCGQCHSKITVCRFGENSRMTYFCPHC  
 QKENPQRVQVCQLPTRNTEISWTPRGEDCFDTSVARKSEEQWSCAVCTLINRPSAKACDACLTTRPLDSV  
 LKNRENSIAFNNLVKYPCNNFENTHTEVKINRKTAFGNTTLVLTDL SNKSSALARKKRANHTIDGESQMF  
 LPTDIGFSDSQHPSKEGINYITQPSNKNVISPTVCAQSKLFSSAHKKFKPAHTSATELKSYSNGLSNSSEL  
 QTNRTRGHHSKSDGSPLCKMHHRRCVLRVVRKDG ENKGRQFYACSLPRGAQCGFFEWADLSFPFCKHGKR  
 SIMKTVLKI GPNNGNKFFVCPLEKEKQCNFFQWAENGPMEIVPGC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

## Cloning Scheme:



ACCN: NM\_146208

ORF Size: 1818 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq Size: 2271 bp

RefSeq ORF: 1821 bp

Locus ID: 234258

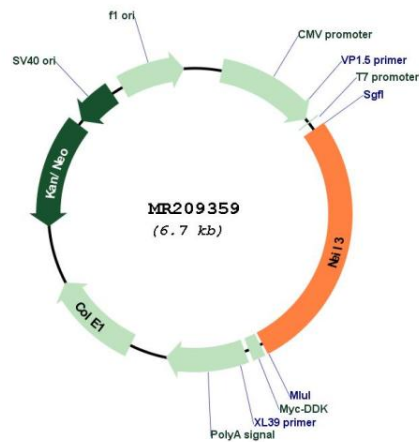
UniProt ID: [Q8K203](#)

Cytogenetics: 8 B1.3

MW: 67.4 kDa

**Gene Summary:** DNA glycosylase which prefers single-stranded DNA (ssDNA), or partially ssDNA structures such as bubble and fork structures, to double-stranded DNA (dsDNA). In vitro, displays strong glycosylase activity towards the hydantoin lesions spiroiminodihydantoin (Sp) and guanidinohydantoin (Gh) in both ssDNA and dsDNA; also recognizes FapyA, FapyG, 5-OHU, 5-OHC, 5-OHMH, Tg and 8-oxoA lesions in ssDNA. No activity on 8-oxoG detected. Also shows weak DNA-(apurinic or apyrimidinic site) lyase activity. In vivo, appears to be the primary enzyme involved in removing Sp and Gh from ssDNA in neonatal tissues. Seems to be an important facilitator of cell proliferation in certain populations, for example neural stem/progenitor cells and tumor cells, suggesting a role in replication-associated DNA repair. [UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR209359