

## Product datasheet for **MG226792**

### **Nfkb1 (NM\_008689) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Nfkb1 (NM_008689) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Nfkb1
Synonyms:	NF-kappaB; NF-kappaB1; NF-KB1; p50; p50/p105; p105
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG226792 representing NM\_008689  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCAGACGATGATCCCTACGGAACGGCAAAATGTTTCATTTGAACACTGCTTTGACTCACTCAATAT  
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 TCGTTTCAGTTGGTCACAAATGGAAAAACATCCACCTGCACGCCACAGCCTGGTGGGCAAGCACTGTGA  
 GGACGGGGTATGCACCGTAACAGCAGGACCCAAGGACATGGTGGTTGGCTTTGCAAACCTGGGAATACTT  
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 CAGACGCCATCTATGATAGCAAAGCCCCGAATGCATCCAACCTGAAAATCGTGAGAATGGACAGAACAGC  
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 GTTTGTTACAGTTCGGAGGAAATCAGACCTGAAAAGTGTGAACCGAAACCTTTCTCTACTACCTGAA  
 ATCAAAGACAAAGAGGAAGTCAAAGGAAACGCCAGAAGCTTATGCCGAACCTTCTCGGACAGCTTCGGT  
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 GCCCATGGCCTGCACCAAGAGCGGAACCCATCGCCTTGGCATCCACATGGAAGACAAGGAGCAGGACATG  
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 GGACCGCTGGGGCAACTCTGCTCCTGCACCTAGCTGCCAAAGAAGGACACGACAGAATCCTCAGCATCCTG  
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 AACAAATGCCTTCCGGCTGAGTCTGCTCCTTCTAAAACCTCTCATGGACAACATGAGGTCTCTGGGGTA  
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 CATCCTTCCGCAAACTCAGCTTTACAGAGTCTTACTGGAGACAGCCACTGCTATCTCTGAACAAAAT  
 GCCCCACGGTTATGGGCAGGAAGGACCTATTGAAGGCAAAAT

**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA**

**Protein Sequence:** >MG226792 representing NM\_008689  
 Red=Cloning site Green=Tags(s)

MADDDPYGTGQMFHLNTALTHSIFNAELYSPEIPLSTDGPYLQILEQPKQRGFRFRYVCEGSPHGGPLGA  
 SSEKNKKSYPQVKICNYVGPQVIVQLVTNGKNIHLHAHSLVGKHCEDGVCTVTAGPKDMVVGANL  
 GILHVTKKKVFETLEARMTEACIRGYNPGLLVHSDLAYLQAEGGDRQLTDREKEIIRQAAVQQT  
 KEMDLSVRLMFTAFLPDSTGSFTRRLEPVVSDAIYDSKAPNASNLKIVRMDRTAGCVTG  
 GEEIYLLCDKVQKDDIQIRFYEEEEENGVWEGFGDFSPTDVHRQFAIVFKTPKYKDVNITK  
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 DEESLTLPEKETE GEGPSLPMACKTEPIALASTMEDKEQDMGFQDNLFLEKALQLARRHANAL  
 FDYAVTGDVKMLLAVQRHLTAVQDENGDSVLHLAIIHLHAQLVRDLLEVTSGLISDDI  
 INMRNDLYQTPLHLAVITKQEDVVEDLLRVGADLSLLDRWGNVSLHLAAKEGHDRILSIL  
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 NISLAGCLLLEGDHVDSTTYDGTTPHLIAAGRGSTRLAALLKAAGADPLVENFEPLYDLDD  
 SWEKAGEDEGVVPGTTPLDMAANWQVFDILNGKPYEPVFTSDDILPQGMKQLTEDTRLQLCK  
 LLEIPDPDKNWATLAQKGLGILNNAFRLSPAPSKTLMDNIEVSGGTIKELMEALQQMGYTEA  
 IEVIQAAFRTPATTASSPVTTAQVHCLPLSSSTRQHIDELRDSVCDSGVETSFRKLSFTE  
 SLTGDSPLL SLNKMPHYGQGEGPIEGKI

TRTRPLE - GFP Tag - V

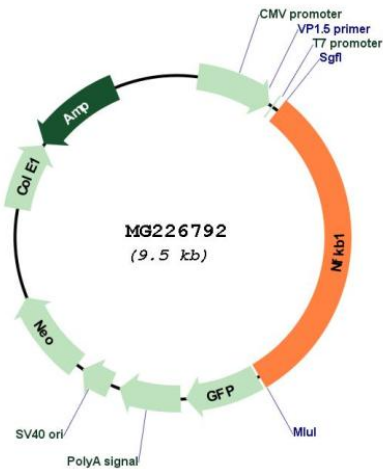
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**Plasmid Map:**


**ACCN:** NM\_008689

**ORF Size:** 2913 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\\_008689.2](#), [NP\\_032715.2](#)

**RefSeq Size:** 4128 bp

**RefSeq ORF:** 2916 bp

**Locus ID:** 18033

**UniProt ID:** [P25799](#)

**Cytogenetics:** 3 62.82 cM

**Gene Summary:** NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. Plays a role in the regulation of apoptosis. Isoform 5, isoform 6 and isoform 7 act as inhibitors of transactivation of p50 NF-kappa-B subunit, probably by sequestering it in the cytoplasm. Isoform 3 (p98) (but not p84 or p105) acts as a transactivator of NF-kappa-B-regulated gene expression. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling; active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105.[UniProtKB/Swiss-Prot Function]