

## Product datasheet for **MR227004**

### **Ikbbk (NM\_010546) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Ikbbk (NM_010546) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ikbbk
Synonyms:	A1132552; IKK-2; IKK-beta; IKK2; IKKbeta; IKK[b]
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR227004 representing NM\_010546  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCTGGT**CACCGTCCCTCCCA**ACCAGACATGTGGAGCCTGGGAAATGAAAGAACGCCTGGGGACCG  
 GGGGATTTGGAAACGTCA**TCCGGTGGCACAATCAGGCGACAGGTGAACAGATCGCCATCAAGCAATGCCG**  
 ACAGGAGCTCAGCCAAAGAACAGAGACCGCTGGTGCCTCGAAATCCAGATCATGAGAAGCTGAACCAT  
 CCCAATGTGGTGGCTGCCGGGATGTCCAGAGGGGATGCAGAACCTGGCACCCAATGATTTGCCACTGC  
 TGGCCATGGAGTACTGCCAAGGAGGAGATCTCCGAAGATACTTGAACCAGTTCGAGAAGCTGTGGCCT  
 GCGGGAAGGAGCTGTCTTACCCTGCTGAGTGACATCGCATCGGCTCTTAGATACCTTACGAAAACAGA  
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 TTATTGATCTAGGATATGCCAAGGAGCTGGATCAGGGCAGTCTGTGCACGTCATTTGTGGGACTCTGCA  
 ATACCTGGCGCCAGAGCTTCTGGAGCAGCAGAAGTACACCGTGACCGTTGACTACTGGAGCTTCGGCACC  
 CTGGCCTTCGAGTGCATCACTGGCTTCCGGCCCTTCTCCCTAACTGGCAGCCTGTGCAGTGGCACTCCA  
 AAGTCCGGCAGAAGAGCGAAGTGGACATCGTTGTTAGTGAAGACTTGAATGGAGCAGTGAAGTTTCAAG  
 TTCGCTACCCTTCCCAATAATCTTAACAGTGTCTTGGCTGAACGGCTGGAGAAGTGGTGCAGCTGATG  
 CTTATGTGGCACCTCGGCAAAGGGGCACGGATCCCCAGTATGGCCCCAACGGCTGCTTCAGAGCCCTGG  
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 GACGGAGGATGAGAGTCTGCAGAGCTTAAAAACCAGAAATCCAGGAAGACACGGGGATCCTGGAGACAGAC  
 CAGGAGCTGTGCAAGAGGCAGGGCTGGTGTCTCCCTGACAAGCCTGCTACTCAGTGCATCTCAGACA  
 GCAAGACAAACGAGGGCCCTCACGTTGGACATGGATCTTGTTTTTCTTTTGACAACAGTAAAATCAACTA  
 TGAGACTCAGATCACCCCGACCCCAACCGGAAAGTGTAGCTGTATCCCTTCAGGAGCCCAAGCGGAAC  
 CTCTCCTTCTTCCAGCTGAGGAAAGTGTGGGGCCAAGTCTGGCACAGCATCCAGACGCTGAAGGAAGACT  
 GTAACCGGCTGCAGCAGGGACAGCGAGCAGCCATGATGAGTCTCTCCGGAATAACAGCTGCCTCTCTAA  
 GATGAAGAACGCCATGGCTCCACGGCCAGCAGCTCAAGCCAAGCTGGACTTCTTCAAAACCAGCATC  
 CAGATCGACCTGGAGAAGTATAAAGAGCAGACCGAGTTTGGGATCACCTCAGATAAATTGCTGCTGGCTT  
 GGCGGGAGATGGAGCAGGCTGTGGAGCAGTGTGGCGGGAGAATGACGTGAAGCATCTAGTAGAGCGGAT  
 GATGGCACTGCAGACTGACATTGTGGACCTGCAGAGGAGCCGATGGGTGGAAGCAGGGGGGCACCCTG  
 GATGACCTAGAGGAACAAGCGAGGGAGCTCTACCGAAGACTCAGGGAGAAGCCAAGAGACCAAGGACAG  
 AAGGTGACAGCCAGGAGATGGTACGGCTGCTGCTTCCAGGCAATCCAAAGCTTTGAGAAGAAAGTTCCGGT  
 GATTTATACACAGCTCAGTAAGACCGTGGTTTGTAAAGCAGAAGGCACTGGAGTTGCTGCCAAGGTAGAA  
 GAGGTAGTGAGCCTTATGAACGAGGACGAGAGGACCGTGGTCCGGCTTCAGGAGAAGCGGCAAGGAAC  
 TCTGGAACCTCCTGAAGATCGCCTGTAGCAAAGTCCGAGGTCCCGTGTGAGTGAAGCCAGACAGCATGAA  
 TGTGTCTCGACTCAGTACCCTGGTCACTAATGTCCCAGCCTTCCAGTGCCTGTGACAGCTTACCTGAA  
 TCAGACAAGAAAAGTGAAGAAGTGGTGGCCGAAGCCACGCCCTCTGCTCCCGGCTAGAAAAGTGCCTGC  
 AGGACTGTGAAGGAGCAAGACAGAAGCTTACGGTAACCGCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGAT**AAGTTTAA**

**Protein Sequence:** >MR227004 representing NM\_010546  
 Red=Cloning site Green=Tags(s)

MSWSPSLPTQTCGAWEMKERLGTGGFGNVIRWHNQATGEQIAIKQCRQELSPKNRDRWCLEIQIMRRLNH  
 PNVVAARDVPEGMQNLAPNDLPLLAMEYCQGGDLRRYLNQFENCCLREGAVLTLLSDIASALRYLHENR  
 I IHRDLKPENIVLQQGEKRL IHKIIDLGYAKELDQGLCTSFVGTLQYLAPELLEQQKYTVVDYWSFGT  
 LAFECITGFRPFLPNWQPVQWHSKVRQKSEVDIVVSEDLNGAVKFSSSLPFPNNLNSVLAERLEKWLQLM  
 LMWHPRQRGTDPPYGPNGCFRALDDILNLKLVHVLNMVTGTVHTYPTVEDESLQSLKTRIQEDTGILETD  
 QELLQEAGLVLLPDKPATQCISDSKTNEGLTLDMDLVFLFDNSKINYETQITPRPQESVSCILQEPKRN  
 LSFFQLRKVWGQVWHSIQTLKEDCNRLQQGQRAAMSSLRNNNSLSKMKNAMASTAQQLKAKLDFFKTSI  
 QIDLEKYEQTEFGITSDKLLLAWREMEQAVEQCQGRENDVKHLVERMMALQTDIVDLQRSPMGRKQGGL  
 DDLEEQARELYRRLREKPRDQRTEGDSQEMVRLLLQAIQSFEEKVRVIYTLQSKTVVCKQKALELLPKVE  
 EVVSLMNEDERTVRLQEKQKELWNLLKIACSKVRGPVSGPDSMNVSRLSHPGQLMSQPSSACDSLPE  
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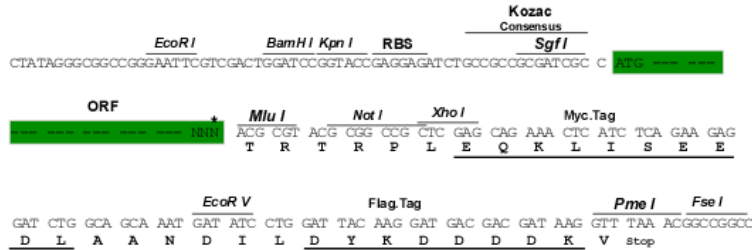
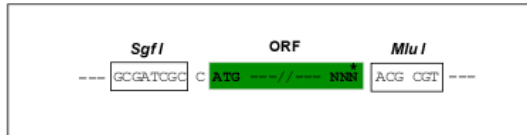
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**ACCN:** NM\_010546

**ORF Size:** 2214 bp

**OTI Disclaimer:** 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 [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_010546.2](#), [NP\\_034676.1](#)

**RefSeq Size:** 4540 bp

**RefSeq ORF:** 2217 bp

**Locus ID:** 16150

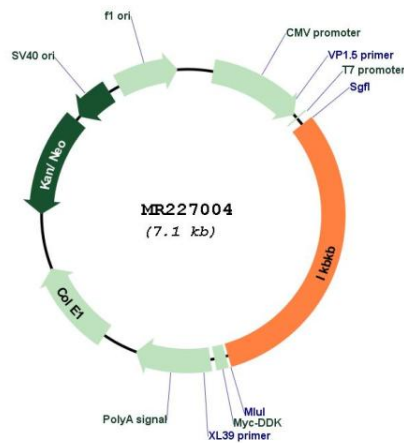
**UniProt ID:** [O88351](#)

**Cytogenetics:** 8 A2

**MW:** 84.8 kDa

**Gene Summary:**

Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. In turn, free NF-kappa-B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis. In addition to the NF-kappa-B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/IKBKG, NF-kappa-B subunits RELA and NFKB1, as well as IKK-related kinases TBK1 and IKBKE. IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs. Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor. Also phosphorylates other substrates including NCOA3, BCL10 and IRS1. Within the nucleus, acts as an adapter protein for NFKBIA degradation in UV-induced NF-kappa-B activation. [UniProtKB/Swiss-Prot Function]

**Product images:**


Circular map for MR227004