

## Product datasheet for **MG210500**

### **Ikbbk (BC037723) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Ikbbk (BC037723) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ikbbk
Synonyms:	IKK2, IKK-2, IKK[b], IKK-beta
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG210500 representing BC037723  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAGCTGGTCACCGTCCCTCCCAACCCAGACATGTGGAGCCTGGGAAATGAAAGAACGCCTGGGGACCG  
 GGGGATTTGGAAACGTCAATCCGGTGGCACAATCAGGCGACAGGTGAACAGATCGCCATCAAGCAATGCCG  
 ACAGGAGCTCAGCCCAAAGAACAGAGACCGCTGGTGCCTCGAAATCCAGATCATGAGAAGGCTGAACCAT  
 CCCAATGTGGTGGCTGCCGGGATGTCCAGAGGGGATGCAGAACCTGGCACCCAATGATTTGCCACTGC  
 TGGCCATGGAGTACTGCCAAGGAGGAGATCTCCGAAGATACTTGAACCAGTTCGAGAAGTCTGTGGCCT  
 GCGGGAAGGAGCTGTCTTACCCTGCTGAGTGACATCGCATCGGCTCTTAGATACCTTACGAAAACAGA  
 ATCATCCATCGAGACCTGAAGCCAGAAAACATCGTTCTGCAGCAAGGAGAGAAAAGATTAATACACAAAA  
 TTATTGATCTAGGATATGCCAAGGAGCTGGATCAGGGCAGTCTGTGCACGTCATTTGTGGGACTCTGCA  
 ATACCTGGCGCCAGAGCTTCTGGAGCAGCAGAAGTACACCGTGACCGTTGACTACTGGAGCTTCGGCACC  
 CTGGCCTTCGAGTGCATCACTGGCTTCCGGCCCTTCTCCCTAACTGGCAGCCTGTGCAGTGGCACTCCA  
 AAGTCCGGCAGAAGAGCGAAGTGGACATCGTTGTTAGTGAAGACTTGAATGGAGCAGTGAAGTTTCAAG  
 TTCGCTACCCTTCCCAATAATCTTAACAGTGTCTTGGCTGAACGGCTGGAGAAGTGGTGCAGCTGATG  
 CTTATGTGGCACCTCGGCAAAGGGGCACGGATCCCCAGTATGGCCCCAACGGCTGCTTCAGAGCCCTGG  
 ATGACATCTTGAAGCTGGTTCATGTCTTGAACATGGTTCACAGGCACCGTTCACACATACCCCGT  
 GACGGAGGATGAGAGTCTGCAGAGCTTAAAAACCAGAAATCCAGGAAGACACGGGGATCCTGGAGACAGAC  
 CAGGAGCTGCTGCAAGAGGCAGGGCTGGTGTCTCCCTGACAAGCCTGCTACTCAGTGCATCTCAGACA  
 GCAAGACAAACGAGGGCCCTCACGTTGGACATGGATCTTGTTTTTCTTTTGACAACAGTAAATCAACTA  
 TGAGACTCAGATCACCCCGACCCCAACCGGAAAGTGTAGCTGTATCCTTCAGGAGCCCAAGCGGAAC  
 CTCTCCTTCTTCCAGCTGAGGAAAGTGTGGGGCAAGTCTGGCACAGCATCCAGACGCTGAAGGAAGACT  
 GTAACCGGCTGCAGCAGGGACAGCGAGCAGCCATGATGAGTCTCCTCCGGAATAACAGCTGCCTCTCTAA  
 GATGAAGAACGCCATGGCTCCACGGCCAGCAGCTCAAGGCCAAGCTGGACTTCTTCAAAACCAGCATC  
 CAGATCGACCTGGAGAAGTATAAAGAGCAGACCGAGTTTGGGATCACCTCAGATAAATTGCTGCTGGCTT  
 GGCGGGAGATGGAGCAGGCTGTGGAGCAGTGTGGCGGGAGAATGACGTGAAGCATCTAGTAGAGCGGAT  
 GATGGCACTGCAGACTGACATTGTGGACCTGCAGAGGAGCCGATGGGTGGAAGCAGGGGGGCACCCTG  
 GATGACCTAGAGGAACAAGCGAGGGAGCTCTACCGAAGACTCAGGGAGAAGCCAAGAGACCAAGGACAG  
 AAGGTGACAGCCAGGAGATGGTACGGCTGCTGCTCAGGCAATCCAAAGCTTTGAGAAGAAAGTTCCGGT  
 GATTTATACACAGCTCAGTAAGACCGTGGTTTGTAAAGCAGAAGGCACTGGAGTTGCTGCCAAGGTAGAA  
 GAGGTAGTGAGCCTTATGAACGAGGACGAGAGGACCGTGGTCCGGCTTCAGGAGAAGCGGCAAGGAAC  
 TCTGGAACCTCCTGAAGATCGCCTGTAGCAAAGTCCGAGGTCCCGTGAAGTGAAGCCAGACAGCATGAA  
 TGTGTCTCGACTCAGTACCCTGGTCAAGTAAATGTCCCAGCCTTCCAGTGCCTGTGACAGCTTACCTGAA  
 TCAGACAAGAAAAGTGAAGAAGTGGTGGCCGAAGCCACGCCCTGCTCCCGGCTAGAAAAGTGCCTGC  
 AGGACTGTGAAGGAGCAAGACAGAAGCTTACGACTCTAGACTGGAGCTGGTTACAGATGGAGGATGA  
 AGAAAGGTGTAGCCTGGAGCAGGCTGTGAC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG210500 representing BC037723  
 Red=Cloning site Green=Tags(s)

```
MSWSPSLPTQTCGAWEMKERLGTGGFGNVIRWHNQATGEQIAIKQCRQELSPKNRDRWCLEIQIMRRLNH
PNVVAARDVPEGMQNLAPNDLPLLAMEYCQGGDLRRYLNQFENCCLREGAVLTLLSDIASALRYLHENR
IIHRDLKPENIVLQOGEKRLIHKIIDLGYAKELDQGSLECTSFVGTLYLAPELLEQQKYTVTVDYWSFGT
LAFECITGFRPFLPNWQPVQWHSKVRQKSEVDIVVSEDLNGAVKFSSSLPFPNNLNSVLAERLEKWLQML
LMWHPRQRGTDPQYGPNGCFRALDDILNLKLVHVLNMVTGTVHTYPVTEDESLQSLKTRIQEDTGILETD
QELLQEAGLVLLPDKPATQCISDSKTNEGLTLDMDLVFLFDNSKINYETQITPRPQESVSCILQEPKRN
LSFFQLRKVWQVWHSIQTLKEDCNRLQQQRAAMMSLLRNNSLSKMKNAMASTAQQLKAKLDFFKTSI
QIDLEKYEQTEFGITSDKLLLAWREMEQAVEQCQGRENDVKHLVERMMALQTDIVDLQRSPMGRKQGGTL
DDLEEQARELYRRLREKPRDQRTEGDSQEMVRLLLQAIQSFEEKVRVIYTLQSKTVVCKQKALELLPKVE
EVSLSLMNEDERTVVRLEKQKELWNLLKIACSKVRGPVSGPDSMNVSRLSHPGQLMSQPSSACDSLPE
SDKKSEELVAEHALCSRLESALQDTVKEQDRSFTTLDWSWLQMEDEERCSLEQACD
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**ACCN:** BC037723

**ORF Size:** 2273 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:** [BC037723](#), [AAH37723](#)

**RefSeq Size:** 3572 bp

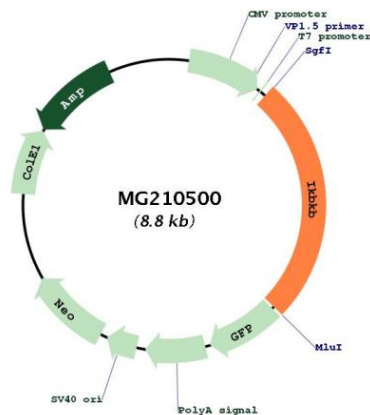
**RefSeq ORF:** 2273 bp

**Locus ID:** 16150

**Cytogenetics:** 8 A2

**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 MG210500