

Product datasheet for **MG210252**

Irak1 (BC004778) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Irak1 (BC004778) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Irak1
Synonyms:	IRAK, mPLK
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG210252 representing BC004778
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGACGCCCTGGAGCCCGGACTGGTGCCAGTTCGCGCCTTGATCGTGCAGCAGACAGAGCTGC
 GGCTGTGCGAGCGCTCCGAGCAGCGCACAGCCAGTGTCTGTGGCCCTGGATCAACCGCAACGCGCGCT
 AGCTGACCTCGTTCACATCCTCACGCACCTGCAGCTGCTGCGTGCAGGGACATCATCACAGCCTGGCAC
 CCTCTGCCCCGTTGTGCCCAAGCACCCTGCCCAAGGCCAGCAGCATCTCTGCAGGCTCTGAGG
 CCGGGGACTGGAGCCCCGAAATTGCAGTCTCTGCCTCCACCTTCTCTCCCCAGCTTTTCCAGGCTC
 CCAGACCCATTCTGAGTCAGAGCTCCTCCAGTTCCTCCCTGTTTCCCTCGGGCCACCACTACCATCT
 TCAGCCCTTCTCCACCAAGCAGTCAAGCCAGAGAGCCAGTGTCTGGCCTCAAAGAGCCCATCCCT
 CCCCCTTTGCTGGCCCTTCTGTGAGATTTCCCAAGGCACCTGCAACTTCTCTGAAGAACTCAGGATTGG
 AGAGGGTGGTTTTGGATGTGTGTACCGAGCAGTCATGAGAAATACTACATATGCTGTGAAGAGACTGAAG
 GAGGAAGCTGACCTAGAGTGGACTATGGTGAAACAGAGCTTCTAACAGAGGTGGAACAGCTATCAAGT
 TTCGTCACCCAAATATCGTAGACTTTGCTGGCTACTGTGCAGAGAGTGGCTTATACTGCCTGTTTATGG
 CTTCTTGCCCAATGGCTCCTTGAGGATCAGCTCCACCTTCCAGACCCAGGCTGCTCCCCACTTTCTGG
 CCTCAACGACTGGACATCTTCTGGGCACAGCCCGGGCTATTCAGTTTTTACATCAGGATAGCCCCAGCC
 TTATCCATGGAGACATCAAGAGTTCTAACGTGCTTCTGGATGAGAGACTGATGCCAAGCTGGGAGACTT
 TGGCCTGGCTCGTTTTCAGCCGCTTTCGGGGGCCAAAGCAAGCCAGAGCAGTACTGTGGCCCGGACTTCC
 ACAGTTCGAGGTACCCTCGCTACTTGCCTGAGGAGTACATCAAGACAGGCCGACTGGCTGTGGACACCG
 ATACCTTCAGCTTTGGGGTGGTAATACTGGAGACCTTGGCTGGTCAGAGGGCTGTGAGGACACAAGGTGC
 AAAGACCAAGTATTTGAAAGACCTGATTGAAGATGAGGCTGAAGAGGCTGGAGTGACCTGAAAAGCACC
 CAGCCTACTCTGTGGGTGGTGTAGCCACGGATGCTTGGGCTGCTCCAATTGCTGCCAGATCTATAAGA
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 GCCCTTTGGCTCTATTTGGGGAGGTGCTCTGTGGAATAAGTGGTAAAGGGCTGCTGCTTTGCTGGATGA
 GCCTCAGATCCCAGGAACAGGTATACAAGAGACTAGAAGGGCTTCAGGCAGGGCCTCCCTGGGAGCTAGA
 GGTTGCCGGCCATGGCTCCCCTTCCCACAGGAGAACTCTACATGTCTACCACTGGCAGTGCCAGAGT
 GGGGATGAACCATGGCAGCCTCTAGTAGTGACCACAAGAGCCCCAGCCAGGCTGCCAGCAACTCCAGA
 GAAGTCCAACCAAGCCAGTGGAAAGTGTGAGAGTGTCCCGGCTCTCTGCTACCCTGCATTCTGGCA
 CTTGACTCCAGGTTCCCACCAAGCCAGCGTCTTCAGAGAGGCTAGCTGTACCCAGGGAGGCACTACC
 AGAGAATCAAGTGTGAGGAGTAGCCAGGCTTCCAGCCTACAACCATGGAAGGCTCACCCAGGGCAGCT
 CATCCCTGCTGTATCAGAACCCACAGATCATCATCAACCCAGCCGACAGAAGATGGTACAAAAGCT
 GGCTCTTTATGAAGAAGGGTCTTGATAGCCTGCAACTGCTGTATCAGGCTTTTCCCAGGCTTGAT
 TTAGAACCTGAAAAGAGCCAGGGACCTGAAGAAAGTGTGAATTCAGAGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG210252 representing BC004778
 Red=Cloning site Green=Tags(s)

MDALEPADWCQFAALIVRDQTELRLCERSEQRTASVLWPWINRNARVADLVHILTHLQLLRARDIITAWH
 PPAPVVPSTAAPRPSSIAGSEAGDWSRKLQSSASTFLSPAFPGSQTHSESELLQVPLPVS LGPPLPS
 SAPSSTKQSSPESPVSGLQRAHPSPF CWPFC EISQGT CNF SEELRIGEGGFGCVYRAVMRNTTYAVKRLK
 EEADLEWMTMKQSFLTEVEQLSRFRHPNIVDFAGYCAESGLYLCLVYGF L PNGSLEDQLHLQTQACSPLSW
 PQRLDILLGTARAIQFLHQDSPSLIHGDIKSSNVLLDERLMPKLGDFGLARF SRFAGAKASQSSTVARTS
 TVRGTLAYLPEEYIKTGR LAVDTDTFSFGVVIETLAGQRAVRTQGA KTKYLKDLIEDEAEEAGVTLKST
 QPTLWVG VATDAWAAPIAAQIYKKHLDSRPGPCPPQLGLALACLCCMHRRAKRPPMTQRQNSQHSL
 ALWLYLGRCSVELSGKGLLLCWMSLRSQEVYKRLEGLQAGPPWELEVAGHGSPSPQENSYMSTTGSQAQ
 GDEPWQPLVVTTRAPAQAAQQLQRSPNQPVESDESVPGLSATLHSHWHTPGSHSPASPFREASCTQGTT
 RESSVRSSPGFQPTTMEGSPTGSSLLSSEPPQIIINPARQKMQK LALYEEGLVDSLQLLSSGFFPGLD
 LEPEKSQGP EESDEFQS

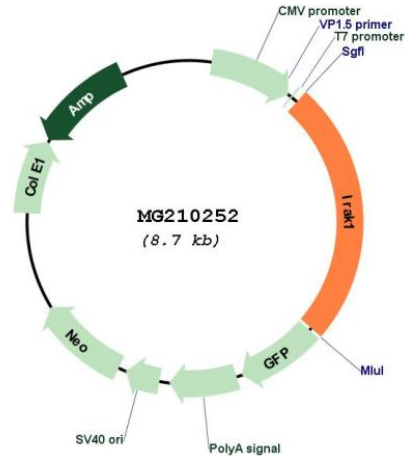
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:


ACCN: BC004778

ORF Size: 2153 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: [BC004778](#), [AAH04778](#)

RefSeq Size: 2893 bp

RefSeq ORF: 2153 bp

Locus ID:	16179
Cytogenetics:	X 37.61 cM
Gene Summary:	<p>Serine/threonine-protein kinase that plays a critical role in initiating innate immune response against foreign pathogens. Involved in Toll-like receptor (TLR) and IL-1R signaling pathways. Is rapidly recruited by MYD88 to the receptor-signaling complex upon TLR activation. Association with MYD88 leads to IRAK1 phosphorylation by IRAK4 and subsequent autophosphorylation and kinase activation. Phosphorylates E3 ubiquitin ligases Pellino proteins (PELI1, PELI2 and PELI3) to promote pellino-mediated polyubiquitination of IRAK1. Then, the ubiquitin-binding domain of IKBKG/NEMO binds to polyubiquitinated IRAK1 bringing together the IRAK1-MAP3K7/TAK1-TRAF6 complex and the NEMO-IKKA-IKKB complex. In turn, MAP3K7/TAK1 activates IKKs (CHUK/IKKA and IKBKB/IKKB) leading to NF-kappa-B nuclear translocation and activation. Alternatively, phosphorylates TIRAP to promote its ubiquitination and subsequent degradation. Phosphorylates the interferon regulatory factor 7 (IRF7) to induce its activation and translocation to the nucleus, resulting in transcriptional activation of type I IFN genes, which drive the cell in an antiviral state. When sumoylated, translocates to the nucleus and phosphorylates STAT3 (By similarity).</p> <p>[UniProtKB/Swiss-Prot Function]</p>