

## Product datasheet for **MC221249**

### **Rps6ka3 (NM\_148945) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Rps6ka3 (NM_148945) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Rps6ka3
Synonyms:	MAPKAPK-1b; MPK-9; p90RSK3; pp90RSK2; Rsk2; S6K-alpha3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >MC221249 representing NM\_148945  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCGCTGGCGCAGCTGGCGGACCCGTGGCAGAAGATGGCTGTGGAGAGCCCTCCGACAGCGCGGAGA  
 ATGGACAGCAAATTATGGATGAACCTATGGGAGAGGAGGAGATTAAACCACAAACTGAAGAAGGCAGTAT  
 CAAAGAAATTGCAATCACACATCATGTGAAGGAAGGACATGAAAAGGCAGATCCTCCAGTTTGAACCT  
 TAAAAAGTATTAGGGCAGGGATCATTTGAAAAGGTTTTCTTAGTTAAAAAATCTCAGGCTCTGATGCTA  
 GACAGCTTTATGCCATGAAAGTATTAAGAAGGCCACGCTGAAAGTTCGAGACCGTGTTCGGACAAAAAT  
 GGAACGTGATATCTTGGTAGAAGTCAATCACCTTTTATTGTCAAATGCATTACGCTTTTCAAACGGAA  
 GGAAGTTGTATCTTATTTGGATTTTCTCAGGGCGGAGACTTGTTCACGCTTATCCAAAGAGGTGA  
 TGTTACAGAGGAAGATGTCAAATCTACTTGGCTGAACCTGCATTGCTTTAGACCATCTTCATAGCCT  
 GGAATAATCTATAGAGACTTAAAACCAGAAAACATACTTCTTGATGAAGAAGGTCACATCAAGTAACT  
 GATTTTGGCTTAAGTAAGGAATCTATTGATCATGAGAAGAAGGCTTATTCTTTTTGTGGCACTGTGGAA  
 ACATGGCTCCAGAAGTAGTTAACCCGAGAGGTCACACTCAGAGTGCAGGACTGGTGGTCTTTGGTGTGT  
 GATGTTTGAATGCTCACTGGTACACTACCTTTCCAAGGAAAAGATCGTAAAGAAACAATGACTATGATT  
 CTTAAAGCCAACTCGGGATGCCACAGTTTCTGAGTCTGAAGCCAGAGTCTTTTACGAATGCTTTTCA  
 AACGGAATCCTGCAAACAGATTAGGTGCTGGACCAGATGGAGTTGAAGAAATTAAGACATTCATTTTT  
 CTCAACAATAGACTGGAATAAATATATAAGAAGAGAGATTCACCCACCTTTAAGCCTGCAACTGGCAGA  
 CCTGAAGATACATTTTATTTGATCTGAGTTTACTGCAAAAACCTCCAAAGATTCACCGGCATTCCAC  
 CTAGTGCTAACGCACATCAGCTTTTTCGGGGTTTGTGTTTGTGCTATTACCTCAGATGATGAAAGCCA  
 AGCTATGCAGACAGTTGGTGTGCATTCAATTGTTTCAGCAATTACACAGAAACAGTATTAGTTTACTGAT  
 GGATATGAAGTAAAAGAGGATATTGGCGTTGGCTCATACTCCGTTTGTAAAGAGATGTATACATAAAGCTA  
 CAAACATGGAGTTTGGCGTGAAGATTATTGATAAAGCAAGAGAGACCCAAACAGAAGAGATTGAAATCT  
 TCTTCGCTATGGACAGCATCCAAACATCATTACCCTAAAGGATGTGTATGATGATGGAAAATATGTGTAT  
 GTAGTAACAGAACTTATGAAAGGAGGTGAATTGCTGGATAAGATTCTTAGACAGAAGTTTTTCTCAGAGC  
 GAGAGGCCAGCGCTGCTGTTTACTATAACCAAAAACCTGTTGAGTATCTCATGCACAAGGGTGGTTCA  
 CAGAGACTTGAACCTAGCAACATCTTTATGTGGATGAGTCTGGTAATCCAGAATCTATTCGAATTTGT  
 GATTTTGGCTTTGCAAAACAACCTGAGAGCAGAAAATGGTCTTCTCATGACTCCTTGTACTGCAAAAT  
 TTGTTGCCACAGAGGTTTTAAAACGGCAAGGTTATGATGCTGCCTGTGATATATGGAGTCTTGGCGTCT  
 CCTTTATACAATGCTTACTGGTTACACTCCATTTGCAAATGGCCCTGATGATACTCCAGAGGAAACTG  
 GCACGAATAGGTAGTGGAAAATCTCACTCAGTGGTGGTACTGGAATCTGTTTCAGACACAGCAAAGG  
 ACCTGGTGTCAAAGATGCTTCATGTAGATCCTCATCAGAGACTGACGGCTGCTCTGGTGTCTCAGACATCC  
 TTGGATTGTCCACTGGGACCACTACCACAATACCAACTAAACAGACAGGATGCGCCGATCTCGTAAAG  
 GGTGCCATGGCAGCTACGTACTCTGCTTAAACCGCAATCAGTCCCAGTCTTGGAAACAGTGGGCCGCT  
 CCACTCTTGCTCAGCGGAGAGGGATTAATAAATCACCTCAACAGCCCT**GTA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI

**ACCN:** NM\_148945

**Insert Size:** 2223 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_148945.2</a></u> , <u><a href="#">NP_683747.1</a></u>
<b>RefSeq Size:</b>	7320 bp
<b>RefSeq ORF:</b>	2223 bp
<b>Locus ID:</b>	110651
<b>UniProt ID:</b>	<u><a href="#">P18654</a></u>
<b>Cytogenetics:</b>	X 73.27 cM

**Gene Summary:**

Serine/threonine-protein kinase that acts downstream of ERK (MAPK1/ERK2 and MAPK3/ERK1) signaling and mediates mitogenic and stress-induced activation of the transcription factors CREB1, ETV1/ER81 and NR4A1/NUR77, regulates translation through RPS6 and EIF4B phosphorylation, and mediates cellular proliferation, survival, and differentiation by modulating mTOR signaling and repressing pro-apoptotic function of BAD and DAPK1. In fibroblast, is required for EGF-stimulated phosphorylation of CREB1 and histone H3 at 'Ser-10', which results in the subsequent transcriptional activation of several immediate-early genes. In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP. Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity. Phosphorylates RPS6 in response to serum or EGF via an mTOR-independent mechanism and promotes translation initiation by facilitating assembly of the preinitiation complex. In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap-dependent translation. Is involved in the mTOR nutrient-sensing pathway by directly phosphorylating TSC2 at 'Ser-1798', which potently inhibits TSC2 ability to suppress mTOR signaling, and mediates phosphorylation of RPTOR, which regulates mTORC1 activity and may promote rapamycin-sensitive signaling independently of the PI3K/AKT pathway. Mediates cell survival by phosphorylating the pro-apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function. Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl4). Is involved in cell cycle regulation by phosphorylating the CDK inhibitor CDKN1B, which promotes CDKN1B association with 14-3-3 proteins and prevents its translocation to the nucleus and inhibition of G1 progression. In LPS-stimulated dendritic cells, is involved in TLR4-induced macropinocytosis, and in myeloma cells, acts as effector of FGFR3-mediated transformation signaling, after direct phosphorylation at Tyr-529 by FGFR3. Phosphorylates DAPK1 (By similarity). Negatively regulates EGF-induced MAPK1/3 phosphorylation via phosphorylation of SOS1. Phosphorylates SOS1 at 'Ser-1134' and 'Ser-1161' that create YWHAB and YWHAЕ binding sites and which contribute to the negative regulation of MAPK1/3 phosphorylation (PubMed:22827337). Phosphorylates EPHA2 at 'Ser-897', the RPS6KA-EPHA2 signaling pathway controls cell migration (By similarity).[UniProtKB/Swiss-Prot Function]