

## Product datasheet for **MR227461**

### **Gsk3a (NM\_001031667) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Gsk3a (NM_001031667) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Gsk3a
Synonyms:	2700086H06Rik
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR227461 representing NM\_001031667  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCGGCGCGGGCCCTTCGGGAGGCGGCCCTGGGGGCTCGGGCCGGGCGGGACCAGCTCGTTCCGGG  
 AGCCAGGAGGCGGAGGCGGAGGTGGTGGCGGCGGCCCGGGGGCTCGGCCTCTGGCCAGGAGGCACTGG  
 CGGCGGAAAGCGTCAGTCGGGGCTATGGTGGGGCGTGGGAGCCTCGAGCTCCGGGGGTGCCCCAGC  
 GGCAGCGGCGGAGGAGGAGCGGTGGCCCGGCGGGGCACTAGCTTCCCGCCGCGGGAGTGAAGCTGG  
 GCCGTGACAGCGGGAAGGTGACCACAGTGGTAGCCACTGTAGGCCAAGGCCAGAGCGTTCCCAAGAAGT  
 GGCTTACACTGACATCAAAGTGATTGGTAATGGCTCATTTCGGAGTAGTATACCAGGCACGGCTGGCAGAG  
 ACGAGGGAAGTGGTGGCCATCAAGAAGTTCTTCAGGACAAAAGTTCAAGAACCAGAACTGCAGATTA  
 TCGTAAGCTGGACCACTGCAATATTGTGAGGCTGCGGTACTTTTCTACTCCAGTGGGAGAAGAAGGA  
 CGAGCTGTATTTGAATCTGGTGTGGAGTATGTGCCCGAGACGGTGTACCGAGTGGCCCGCCACTTCACC  
 AAGGCCAAGCTGATCACCCCTATCATCTACATCAAGGTGTACATGTACCAGCTCTCCGGAGCTTGGCCT  
 ACATCCACTCCCAAGGTGTGTGTCACCGTGACATCAAGCCCCAGAATTTGCTTGTGGACCCTGACTGTC  
 TGTCTCAAGCTCTGCGATTTTGGCAGTGCAAAGCAGCTGGTTCGGGGGAGCCCAATGTGTCTACATC  
 TGCTCTCGGTAACCGTCTCCAGAACTATCTTTGGAGCCACAGATTACACCTCGTCCATCGATGTGT  
 GGTCCGGTGGCTGTACTTGTGAGTACTTCTCGCCAGCCCATCTCCCTGGGGACAGTGGGGTGGGA  
 CCAGCTTGTGGAGATCATCAAGTACTAGGAACGCCAACCCAGGGAACAAATCCGAGAGATGAACCCTAAC  
 TATACGGAGTTCAAGTCCCCAGATCAAAGCTCACCTTGGACAAAGGTGTTCAAATCTCAAAGACAC  
 CACCTGAGGCCATTGCACTCTGCTCTAGCCTACTGGAGTACACGCCATCCTCAAGGCTCTCCCACTCGA  
 GGCTTGTGCCACAGCTTCTCGATGAAGTGGGAGACTCGGAGCCAGCTCCCAACACCGCCCGCTT  
 CCCCCCTGTTCAACTTCAGTCTGGTGAAGTGTCCATCCAACCATCTCTCAATGCCATTCTCATCCCTC  
 CTCACTTGAGGTCCCGAGGCGCTGCTTCTCCCTCACCACTTCTACAACCCATCCTACAAGCTTT  
 AACTGAAGCTCAGACTGGCCAAGATTGGCAGCCATCTGATGCCACAAGTGTACCCTCGTAGCTCTTC

**ACGCGT**ACGCGGCGGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR227461 representing NM\_001031667  
 Red=Cloning site Green=Tags(s)

MSGGGPSGGGPGGSGRARTSSFAEPGGGGGGGGGPGGSASGPGGTGGGKASVGMGGVGVASSSGGGPS  
 GSGGGSGGPGAGTSFPPPGVKLRDSDGKVTTVVATVGQGPERSQEVAYTDIKVINGSGFVVYQARLAE  
 TRELVAIKKVLQDKRFKNRELQIMRKLHCNIVRLRYFFYSSGEKKDEL YLNLVLEYVPE TVYRVARHFT  
 KAKLITPIIYIKVYMYQLFRSLAYIHSQGVCHRDIKPNLLVDPDTAVLKL CDFGSAKQLVRGEPNYSYI  
 CSRYRRAPELIFGATDYTSSIDVWSAGCVLAELLLGQPIFPGDSGVDQLVEIKVLGTPTRQIREMNP  
 YTEFKFPQIKAHPTKVFKSSKTPPEAIALCSSLLEYTPSSRLSPLEACAHSFFDELRRLLGAQLPNDRPL  
 PPLFNFSPELSIQPSLNAIIPPHLRSPAGPASPLTTSYNPSSQALTEAQTGDWQPSDATTATLASS

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mm9010\\_b11.zip](https://cdn.origene.com/chromatograms/mm9010_b11.zip)

**Restriction Sites:**

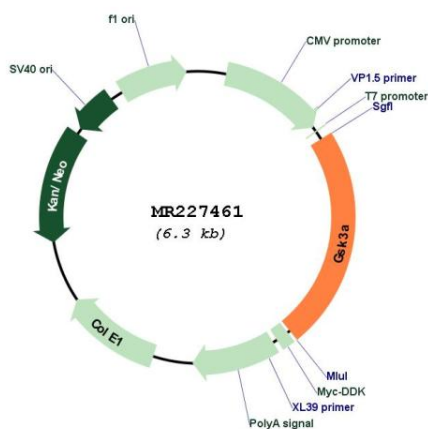
Sgfl-Mlul



MW: 52.1 kDa

**Gene Summary:** Constitutively active protein kinase that acts as a negative regulator in the hormonal control of glucose homeostasis, Wnt signaling and regulation of transcription factors and microtubules, by phosphorylating and inactivating glycogen synthase (GYS1 or GYS2), CTNNB1/beta-catenin, APC and AXIN1 (PubMed:15791206, PubMed:17908561). Requires primed phosphorylation of the majority of its substrates (PubMed:22539723). Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis (PubMed:15791206, PubMed:17908561). Regulates glycogen metabolism in liver, but not in muscle (PubMed:17908561). May also mediate the development of insulin resistance by regulating activation of transcription factors (By similarity). In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin (PubMed:15791206). Facilitates amyloid precursor protein (APP) processing and the generation of APP-derived amyloid plaques found in Alzheimer disease (By similarity). May be involved in the regulation of replication in pancreatic beta-cells (By similarity). Is necessary for the establishment of neuronal polarity and axon outgrowth (PubMed:17391670). Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation (PubMed:16543145). Acts as a regulator of autophagy by mediating phosphorylation of KAT5/TIP60 under starvation conditions, leading to activate KAT5/TIP60 acetyltransferase activity and promote acetylation of key autophagy regulators, such as ULK1 and RUBCNL/Pacer (PubMed:22539723). [UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR227461