

Product datasheet for **MC216926**

Gsk3a (NM_001031667) Mouse Untagged Clone

Product data:

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



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Fully Sequenced ORF: >MC216926 representing NM_001031667
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGCGGCGGGCCCTTCGGGAGGCGGCCCTGGGGCTCGGGCGGGCGGGACCAGCTCGTTTCGCGG
AGCCAGGAGGCGGAGGCGGAGGTGGTGGCGGCGGCCCGGGGGCTCGGCCTCTGGCCAGGAGGCACTGG
CGGCGGAAAGCGTCAGTCGGGGCTATGGTGGGGCGTGGGAGCCTCGAGCTCCGGGGTGGCCCCAGC
GGCAGCGGCGGAGGAGGAGCGGTGGCCCCGGCGGGGCACTAGCTTCCCGCCGCGGGAGTGAAGCTGG
GCCGTGACAGCGGGAAGGTGACCACAGTGGTAGCCACTGTAGGCCAAGGCCAGAGCGTTCCAAGAAGT
GGCTTACACTGACATCAAAGTGATTGGTAATGGCTCATTCGGAGTAGTATACCAGGCACGGCTGGCAGAG
ACGAGGGAAGTGGTGGCCATCAAGAAGTTCTTCAGGACAAAAGGTTCAAGAACCAGAACTGCAGATTA
TGCCTAAGCTGGACCACTGCAATATTGTGAGGCTGCGGTACTTTTCTACTCCAGTGGGAGAAGAAGGA
CGAGCTGTATTTGAATCTGGTGTGGAGTATGTCCCGAGACGGTGTACCGAGTGGCCCGCCACTTCACC
AAGGCCAAGCTGATCACCCCTATCATCTACATCAAGGTGTACATGTACCAGCTTCCCGGAGCTTGGCCT
ACATCCACTCCCAAGGTGTGTGTCACCGTGACATCAAGCCCCAGAATTTGCTTGTGGACCCTGACTGCT
TGTCTCAAGCTCTGCGATTTTGGCAGTGCAAAGCAGCTGGTTCCGGGGGAGCCCAATGTGTCTACATC
TGCTCTCGGACTACCGTGTCCAGAACTCATCTTGGAGCCACAGATTACACCTCGTCCATCGATGTGT
GGTCGGCTGGCTGTACTTGTGAGCTACTTCTCGGCCAGCCATCTTCCCTGGGGACAGTGGGGTGGGA
CCAGCTTGTGGAGATCATCAAGTACTAGGAACGCCAACCAGGGAACAAATCCGAGAGATGAACCCTAAC
TATACGGAGTTCAAGTTCCCCAGATCAAAGCTCACCTTGGACAAAGGTGTTCAAATCTTCAAAGACAC
CACCTGAGGCCATTGCACTCTGCTCTAGCCTACTGGAGTACACGCCATCCTCAAGGCTCCTCCCACTCGA
GGCTTGTGCCACAGCTTCTTCGATGAAGTGGGAGACTCGGAGCCAGCTCCCCAACGACCGCCCGCTT
CCCCCCTGTTCAACTTCAGTCTGGTGAAGTGTCCATCCAACCATCTCTCAATGCCATTCTCATCCCTC
CTCACTTGAGGTCCCAGCAGGCCCTGCTTCTCCCTCACCACTTCTACAACCCATCCTCACAAGCTTT
AACTGAAGCTCAGACTGGCCAAGATTGGCAGCCATCTGATGCCACAAGTGTACCCTCGTAGCTCTTCC
TGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: Sgfl-Mlul

ACCN: NM_001031667

Insert Size: 1473 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).

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_001031667.1](#), [NP_001026837.1](#)

RefSeq Size: 2276 bp

RefSeq ORF: 1473 bp

Locus ID: 606496

UniProt ID: [Q2NL51](#)

Cytogenetics: 7 A3

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]