

Product datasheet for **MR222236**

Kat2a (NM_020004) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Kat2a (NM_020004) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Kat2a
Synonyms:	1110051E14Rik; AW212720; Gcn5; Gcn5l2; mmGCN5
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>MR222236 representing NM_020004
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGAACCTTCCCAGGCCCAAACCCGGTCCCGGCAGCGCAGCCCCGGCCCCCTCACTCCCCAGCCC
 CTGCCCAACTTCGACTCCTGCGCCAGTCCGGCTTCAGCCTCCACTCCGGCTCCGACTCCGGCACCAGC
 CCCTGCCCCAGCTGCAGCCCCAGCTGGGAGCACAGGGAGTGGGGGCGCCGGGTAGGAAGTGGGGGGAT
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 GTGCCAAGAAGCTTGAGAACTAGGGTCTTCTCAGCTTGCAAGGCCAATGAAACCTGCAAGTGTAAATGG
 CTGAAAAACCCCAAGCCCCCACCACCCCGCATGGACCTCCAGCAGCCAGCTGCCAACCTGAGCGAG
 TTGTGCCGTAGCTGTGAGCACCTTTGGCGACCATGTGTCCACCTGGAGAATGTGTGAGAGGACGAGA
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 AGACACCAACAAGTCTATTTCTACCTCTCAAGCTCTTGCAGGAGTGCATTCTGCAGATGACACGCCCA
 GTGGTGGAGGGTCTCTAGGCAGCCCCCATTGAGAAGCCTAACATTGAACAGGGTGTACTGAACCTTTG
 TGCAGTACAAATTTAGCCACCTGGCCCCCGAGAGCGCCAGACAATGTTTGAGCTCTCAAAGATGTTCTT
 GCTCTGCCTTAACTACTGGAAGCTGGAGACCCCTGCTCAATTCGGCAGCGGTCCAGTCTGAGGATGTC
 GCTACCTACAAAGTCAATTATACCAGATGGCTCTGTTACTGCCACGTGCCCCAGAGCTGCGACAGCCTCC
 CCCGCTACGAGACCACCCAGTGTGGCCGAAAGCCTTACGGTCCATTTTCACTGTCAACCCGCCGGCA
 GCTACTGGAAAAATTCGGGTGGAAAAGGACAACTGGTGCTGAGAAGAGGACCCTCATCTCACTCAC
 TTCCCCAAATTCCTGTCCATGCTTGAGGAAGAGATCTACGGGGCAAATTTCCCATCTGGGAGTCAAGCT
 TCACCATGCCACCTTCGAGGGGACACAGCTGGTCCCCGGCCAGCCAGGTCAGTCAACAGTTGTACC
 CAGCTTTCAGTCCCTTCATGGGAGGAGGACGCAACAGCTCCCTGAGCCTAGATTCCGCAGGACTGAGCCC
 ATGCCAGGGGAGAAGAGGAAGCTTCTGAGAACCTGACCCTGGAGGATGCCAAGCGGCTCCGCGTATGG
 GGGACATCCCATGGAGCTGGTCAATGAGGTGATGCTGACGATCACTGACCCCGTGCCATGCTGGGGCC
 TGAGACAAGCCTGCTTTCGGCCAACGCAGCTCGAGATGAGACGGCTCGCCTGGAAGAACGGCAGGAATC
 ATCGAGTTCACGTCATTGGCAACTCCCTGACGCCAAGGCCAACCAGCGCGTGTGCTCTGGCTCGTGG
 GGCTGCAGAAATGCTTTTCCCACCAGTCCAAGAATGCCAAGGAATATATCGCCCGCTCGTCTTTGA
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 CCCACTCAGGGCTTACGGAAATCGTCTTCTGTGCCGTACCTCAAATGAGCAGGTCAAGGGCTATGGCA
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 CAGAGCTGTCCCACATCATCAAGAAACAGAAAGAGATCATCAAGAAGTTGATTGAGCGCAAAACAGGCACA
 GATCCGCAAGGTCTACCCTGGACTCAGCTGCTTCAAAGAGGGAGTGAGGCAGATCCCGGTGGAGAGCGTC
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 ACCTGTGAAGAAGTCAGAGGCTCCTGACTACTACGAGGTTATCCGTTTCCCCATTGACCTGAAGACCATG
 ACAGAACGGTTGCGCAGTCGCTACTATGTGACCCGGAAGCTCTTCGTAGCTGACCTGCAGCGGGTATCG
 CCAACTGCCGGGAGTACAATCCCCCAGACAGCAATACTGTCGCTGCGCCAGTGCCTGGAGAAGTTCTT
 CTACTTCAAGCTCAAAGAGGGAGGGCTCATCGACAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR222236 representing NM_020004
Red=Cloning site Green=Tags(s)

MAEPSQAPNPVPAQAQRPLHSPAPAPTSTPAPSPASASTPAPTAPAPAPAAAAPAGSTGSGGAGVGSAGD
PARPGLSQQRASQRKAQVRGLPRAKLEKLGVSACKANETCKCNGWKNPKPPTAPRMDLQQPAANLSE
LCRSCHEPLADHVSHLENVSEDEINRLLGMVVDVENLFMSVHKEEDTDTKQVYFYLFKLLRKCILQMTRP
VVEGSLGSPPEKPNIEQGVLFVQYKFSHLAPRERQTMFELSKMFLLCLNYWKLETPAQFRQRSQSESV
ATYKVNRYTRWLCYCHVPQSCDSLPRYETTHVFGRSLLRSIFTVTRRQLLEKFRVEKDKLVPEKRTLILTH
FPKFLSMLLEEEIYGANSPIWESGFTMPPESTQLVPRPATVSATVVPSFSPSMGGGSNSSLSDSAGTEP
MPGEKRKLPENLTLEDAKRLRVMGDIPMELVNEVMLTITDPAAMLGPETSLLSANAARDETARLEERRGI
IEFHVIGNSLTPKANRRVLLWVGLQNVFSHQLPRMPKEYIARLVFDPKHKTLALIKDGRVIGGICFRMF
PTQGFTEIVFCAVTSNEQVKGYGTHLMNHLKEYHIKHSILYFLTYADEYAIIGYFKKQGFSDIKVPKSRYS
LGYIKDYEGATLMECLNPRIPYTELSHIKKQKEIIKKLIERKQAQIRKVYPGLSCFKEGVRQIPVESV
PGIRETGWKLPGKEKGLKDPDQLYTTLNLLAQIKSHPSAWPFMEPVKKSEAPDYVEYVIRFPIDLKTM
TERLRSRYVTRKLFVADLQRVIANCREYNPPDSEYCRCSALEKFFYFKLKEGGLIDK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-MluI

Cloning Scheme:


ACCN: NM_020004

ORF Size: 2487 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: [NM_020004.1](#), [NM_020004.2](#), [NM_020004.3](#), [NM_020004.4](#), [NM_020004.5](#), [NP_064388.2](#)

RefSeq Size: 3048 bp

RefSeq ORF: 2493 bp

Locus ID: 14534

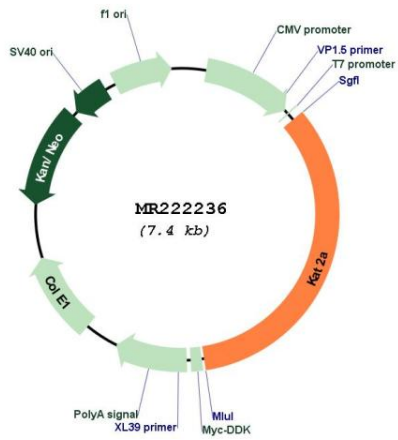
UniProt ID: [Q9JHD2](#)

Cytogenetics: 11 63.53 cM

MW: 93.8 kDa

Gene Summary: Protein lysine acyltransferase that can act both as an acetyltransferase and succinyltransferase, depending on the context (PubMed:28424240). Acts as a histone lysine succinyltransferase: catalyzes succinylation of histone H3 on 'Lys-79' (H3K79succ), with a maximum frequency around the transcription start sites of genes (By similarity). Succinylation of histones gives a specific tag for epigenetic transcription activation (By similarity). Association with the 2-oxoglutarate dehydrogenase complex, which provides succinyl-CoA, is required for histone succinylation (By similarity). In different complexes, functions either as an acetyltransferase (HAT) or as a succinyltransferase: in the SAGA and ATAC complexes, acts as a histone acetyltransferase (By similarity). Has significant histone acetyltransferase activity with core histones, but not with nucleosome core particles (By similarity). Acetylation of histones gives a specific tag for epigenetic transcription activation (PubMed:28424240). Involved in long-term memory consolidation and synaptic plasticity: acts by promoting expression of a hippocampal gene expression network linked to neuroactive receptor signaling (PubMed:25024434). Acts as a positive regulator of T-cell activation: upon TCR stimulation, recruited to the IL2 promoter following interaction with NFATC2 and catalyzes acetylation of histone H3 at Lys-9 (H3K9ac), leading to promote IL2 expression (PubMed:28424240). Also acetylates non-histone proteins, such as CEBPB, PLK4 and TBX5 (PubMed:17301242). Involved in heart and limb development by mediating acetylation of TBX5, acetylation regulating nucleocytoplasmic shuttling of TBX5 (By similarity). Acts as a negative regulator of centrosome amplification by mediating acetylation of PLK4 (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR222236