OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for MR230986

Sh2b1 (NM_001289542) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Sh2b1 (NM_001289542) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Sh2b1
Synonyms:	AI425885; C530001K22Rik; Irip; mKIAA1299; Psm; SH2-B; SH2-Bb; Sh2bpsm1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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ORF Nucleotide Sequence:

>MR230986 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAATGGTGCCCCTTCCCCAGAGGATGGGGTCTTCCCTTCTCCGCCAGCGCTGCCACCACCCCCTCCCC
CAAGTTGGCAAGAGTTCTGTGAGTCCCATGCGAGGGCAGCTGCCCTGGATCTTGCCCGACGTTTTCGCCT
CTACCTGGCCTCCCACCCACAGTATGCAGAGCCGGGAGCAGAGGCCGCTTTTTCTGGCCGTTTTGCTGAG
CTCTTCCTGCAGCACTTCGAAGCCGAGGTGGCTCGGGCCTCGGGCTCACTCTCCCCACCTGTCCTGGCTC
CATTGAGCCCTGGTGTGGAAATCCCACCATCACACGACCTGTCCCTTGAGAGCTGCAGGGTGGGTGGGCC
CCTAGCAGTGTTGGGCCCTTCTCGATCTTCTGAGGACCTGGCTGGCCCCCTTCCTTCCTCAGTCCCTTCC
TCTACAACATCCTCAAAGCCAAAGCTCAAGAAGCGCTTCTCCCTCCGCTCAGTGGGCCGTTCAGTCAGAG
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GGCTGAAGAGGCTGCCCCTGACCCAGCAGGAGTGGGTCGTGGAGGAGGGGCAGCTGGGCTGACCTCAGGA
GGAGGAGGGCAGCCTCAGTGGCAAAAGTGTCGCTTACTGCTCCGGAGTGAAGGAGAAGGAGGAGGAGGAA
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TGATGTCCGCACAGCCACAGCCCTAGAGATGCCTGACAGGGAGAACACGTTTGTGGTTAAGGTAGAAGGC
CCTTCAGAGTACATCCTGGAGACAAGTGATGCGCTTCATGTGAAGGCCTGGGTGTCTGACATCCAGGAAT
GCCTAAGCCCCGGACCCTGTCCTGCTATCAGCCCCCGTCCCATGACCCTTCCCCTGGCCCCTGGGACCTC
CTTCTTCACAAAGGATAACACAGACAGCCTGGAGTTGCCCTGCCTGAATCATTCAGAGAGTCTGCCTAGC
CAGGATCTGCTGCTGGGACCCAGCGAGAGTAACGACCGCCTGTCGCAGGGAGCTTATGGGGGCCTCTCAG
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TCTACCCCCTACCCTCCCCTGGATACTCCAGAAGCAGCCACAGGATCGTTCCTGTTCCAAGGGGAGTCAG
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CGTGGTGAATATGTCCTCACTTTCAACTTCCAGGGCAAGGCCAAGCACCTGCGCTTGTCACTAAATGAGG
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CCCCATCCCTCTGGAGTCTGGAGGCTCCAGTGATGTTGTCCTTGTCAGCTATGTGCCCTCCCAGCGGCAG
CAGGGTGAGCAGAGCAGGTCTGCAGGGGAGGAGGTGCCCGTGCACCCAAGAAGTGAGAACGGAGCACCTC
CCGTGACCCAGCCCAGCCCTCTGAACCCCCTCCATGGACAGATCCCCCACATCCTGGGGCAGAAGAGGCG
TCGGGGGCGCCAGAAGTTGCGGCAGCCACAGCCGCAGCAGCCAAAGAGAGGCAAGAGAAAGAGAAAGCGG
GCAGTGGAGGGGTCCAGGAAGAGCTGGTCCCCGTGGCTGAGCTGGTCCCCATGGTTGAATTGGAAGAGGC
CA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR230986 protein sequence
Red=Cloning site Green=Tags(s)

MNGAPSPEDGVFPSPPALPPPPPPSWQEFCESHARAAALDLARRFRLYLASHPQYAEPGAEAAFSGRFAE
LFLQHFEAEVARASGSLSPPVLAPLSPGVEIPPSHDLSLESCRVGGPLAVLGPSRSSEDLAGPLPSSVPS
STTSSKPKLKKRFSLRSVGRSVRGSVRGILQWRGAVDSPSQAGPLETTSGPPVLGGNSNSNSSGGAGTVG
RALANDGTSPGERWTHRFERLRLSRGGGTLKDGAGMIQREELLSFMGAEEAAPDPAGVGRGGGAAGLTSG
GGGQPQWQKCRLLLRSEGEGGGGSRLEFFVPPKASRPRLSIPCSTITDVRTATALEMPDRENTFVVKVEG
PSEYILETSDALHVKAWVSDIQECLSPGPCPAISPRPMTLPLAPGTSFFTKDNTDSLELPCLNHSESLPS
QDLLLGPSESNDRLSQGAYGGLSDRPSASFSPSSASIAASHFDSMELLPPELPPRIPIEEGPPAGTVHPL
STPYPPLDTPEAATGSFLFQGESEGGEGDQPLSGYPWFHGMLSRLKAAQLVLEGGTGSHGVFLVRQSETR
RGEYVLTFNFQGKAKHLRLSLNEEGQCRVQHLWFQSIFDMLEHFRVHPIPLESGGSSDVVLVSYVPSQRQ
QGEQSRSAGEEVPVHPRSENGAPPVTQPSPLNPLHGQIPHILGQKRRRGRQKLRQPQPQQPKRGKRKRKR
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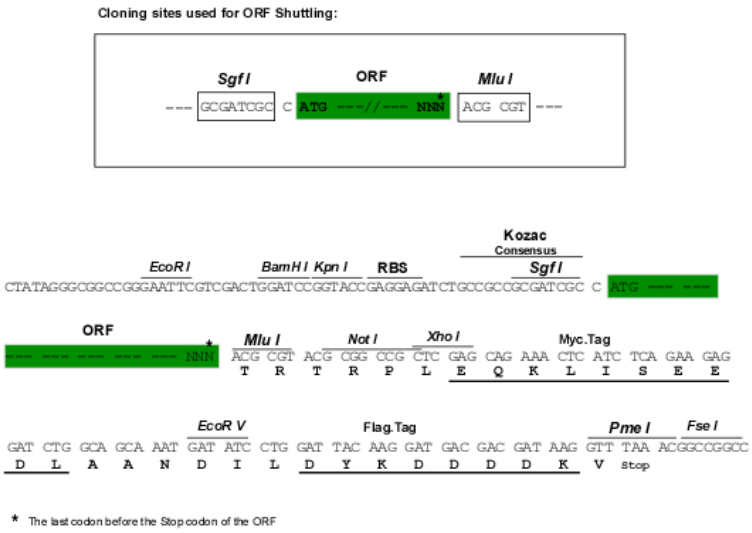
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001289542

ORF Size: 2175 bp

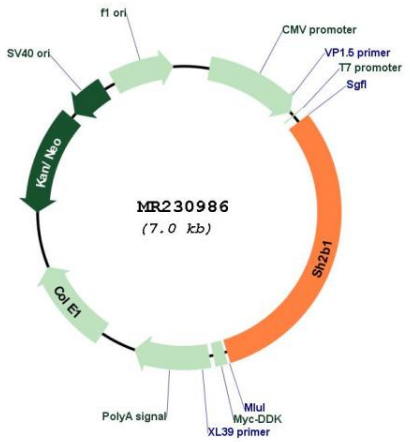
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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_001289542.1, NP_001276471.1
RefSeq Size:	3336 bp
RefSeq ORF:	2175 bp
Locus ID:	20399
UniProt ID:	Q91ZM2
Cytogenetics:	7 69.06 cM
MW:	77.6 kDa
Gene Summary:	Adapter protein for several members of the tyrosine kinase receptor family. Involved in multiple signaling pathways mediated by Janus kinase (JAK) and receptor tyrosine kinases, including the receptors of insulin (INS), insulin-like growth factor I (IGF1), nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), glial cell line-derived neurotrophic factor (GDNF), platelet-derived growth factor (PDGF) and fibroblast growth factors (FGFs). In growth hormone (GH) signaling, autophosphorylated ('Tyr-813') JAK2 recruits SH2B1, which in turn is phosphorylated by JAK2 on tyrosine residues. These phosphotyrosines form potential binding sites for other signaling proteins. GH also promotes serine/threonine phosphorylation of SH2B1 and these phosphorylated residues may serve to recruit other proteins to the GHR-JAK2-SH2B1 complexes, such as RAC1. In leptin (LEP) signaling, binds to and potentiates the activation of JAK2 by globally enhancing downstream pathways. In response to leptin, binds simultaneously to both, JAK2 and IRS1 or IRS2, thus mediating formation of a complex of JAK2, SH2B1 and IRS1 or IRS2. Mediates tyrosine phosphorylation of IRS1 and IRS2, resulting in activation of the PI 3-kinase pathway. Acts as positive regulator of NGF-mediated activation of the Akt/Forkhead pathway; prolongs NGF-induced phosphorylation of AKT1 on 'Ser-473' and AKT1 enzymatic activity. Enhances the kinase activity of the cytokine receptor-associated tyrosine kinase JAK2 and of other receptor tyrosine kinases, such as FGFR3 and NTRK1. For JAK2, the mechanism seems to involve dimerization of both, SH2B1 and JAK2. Enhances RET phosphorylation and kinase activity (By similarity). Isoforms seem to be differentially involved in IGF-I and PDGF-induced mitogenesis, according the order: isoform 3 > isoform 4 > isoform 1 > isoform 2.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR230986