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Product datasheet for MC220648

Sh2b1 (BC051978) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Sh2b1 (BC051978) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Sh2b1
Synonyms:	SH2-Bb, SH2-B, mKIAA1299
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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Fully Sequenced ORF:

>BC051978
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAATGGTGCCCCTTCCCCAGAGGATGGGGTCTTCCCTTCTCCGCCAGCGCTGCCACCACCCCCTCCCC
CAAGTTGGCAAGAGTTCTGTGAGTCCCATGCGAGGGCAGCTGCCCTGGATCTTGCCCGACGTTTTCGCCT
CTACCTGGCCTCCCACCCACAGTATGCAGAGCCGGGAGCAGAGGCCGCTTTTTCTGGCCGTTTTGCTGAG
CTCTTCCTGCAGCACTTCGAAGCCGAGGTGGCTCGGGCCTCGGGCTCACTCTCCCCACCTGTCCTGGCTC
CATTGAGCCCTGGTGTGGAAATCCCACCATCACACGACCTGTCCCTTGAGAGCTGCAGGGTGGGTGGGCC
CCTAGCAGTGTTGGGCCCTTCTCGATCTTCTGAGGACCTGGCTGGCCCCCTTCCTTCCTCAGTCCCTTCC
TCTACAACATCCTCAAAGCCAAAGCTCAAGAAGCGCTTCTCCCTCCGCTCAGTGGGCCGTTCAGTCAGAG
GCTCTGTTCGAGGCATCCTGCAGTGGCGGGGTGCCGTTGACTCGCCCTCCCAAGCTGGGCCTCTGGAGAC
CACATCCGGCCCTCCAGTTCTAGGTGGAAACAGCAACTCCAACTCCTCGGGTGGTGCTGGGACAGTTGGT
AGGGCATTGGCTAATGATGGCACATCCCCTGGGGAGAGATGGACTCATCGATTTGAGAGGCTGAGGCTAA
GTCGTGGAGGGGGAACCCTGAAAGACGGAGCAGGAATGATACAGAGAGAAGAGCTGCTGAGTTTCATGGG
GGCTGAAGAGGCTGCCCCTGACCCAGCAGGAGTGGGTCGTGGAGGAGGGGCAGCTGGGCTGACCTCAGGA
GGAGGAGGGCAGCCTCAGTGGCAAAAGTGTCGCTTACTGCTCCGGAGTGAAGGAGAAGGAGGAGGAGGAA
GTCGCTTGGAGTTCTTTGTACCACCCAAGGCGTCCCGACCCCGTCTCAGCATTCCCTGCTCTACTATTAC
TGATGTCCGCACAGCCACAGCCCTAGAGATGCCTGACAGGGAGAACACGTTTGTGGTTAAGGTAGAAGGC
CCTTCAGAGTACATCCTGGAGACAAGTGATGCGCTTCATGTGAAGGCCTGGGTGTCTGACATCCAGGAAT
GCCTAAGCCCCGGACCCTGTCCTGCTATCAGCCCCCGTCCCATGACCCTTCCCCTGGCCCCTGGGACCTC
CTTCTTCACAAAGGATAACACAGACAGCCTGGAGTTGCCCTGCCTGAATCATTCAGAGAGTCTGCCTAGC
CAGGATCTGCTGCTGGGACCCAGCGAGAGTAACGACCGCCTGTCGCAGGGAGCTTATGGGGGCCTCTCAG
ACCGGCCATCGGCGTCCTTCTCCCCTAGTTCTGCCTCCATTGCTGCCTCCCATTTTGATTCGATGGAACT
GCTTCCTCCAGAATTGCCTCCTCGAATTCCCATTGAGGAGGGGCCTCCAGCAGGGACAGTTCATCCCCTC
TCTACCCCCTACCCTCCCCTGGATACTCCAGAAGCAGCCACAGGATCGTTCCTGTTCCAAGGGGAGTCAG
AGGGGGGTGAGGGGGATCAGCCCCTCTCAGGCTATCCTTGGTTCCACGGCATGCTCTCTCGACTCAAAGC
TGCCCAGTTAGTGTTAGAAGGAGGCACTGGCTCCCATGGTGTCTTCTTGGTACGCCAGAGTGAGACAAGG
CGTGGTGAATATGTCCTCACTTTCAACTTCCAGGGCAAGGCCAAGCACCTGCGCTTGTCACTAAATGAGG
AGGGACAGTGCCGGGTCCAACATCTGTGGTTCCAGTCCATTTTCGATATGCTTGAGCACTTCCGGGTGCA
CCCCATCCCTCTGGAGTCTGGAGGCTCCAGTGATGTTGTCCTTGTCAGCTATGTGCCCTCCCAGCGGCAG
CAGGGTGAGCAGAGCAGGTCTGCAGGGGAGGAGGTGCCCGTGCACCCAAGAAGTGAGAACGGAGCACCTC
CCGTGACCCAGCCCAGCCCTCTGAACCCCCTCCATGGACAGATCCCCCACATCCTGGGGCAGAAGAGGCG
TCGGGGGCGCCAGAAGTTGCGGCAGCCACAGCCGCAGCAGCCAAAGAGAGGCAAGAGAAAGAGAAAGCGG
GCAGTGGAGGGGTCCAGGAAGAGCTGGTCCCCGTGGCTGAGCTGGTCCCCATGGTTGAATTGGAAGAGGC
CATAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: BC051978

Insert Size: 2175 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).

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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:	BC051978, AAH51978
RefSeq Size:	2902 bp
RefSeq ORF:	2174 bp
Locus ID:	20399
Cytogenetics:	7 69.06 cM
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]

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