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Product datasheet for RN214360

Arrb1 (NM_012910) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Arrb1 (NM_012910) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Arrb1
Synonyms:	BARRES
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

Fully Sequenced ORF:

>RN214360 representing NM_012910
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGCGACAAAGGGACACGAGTGTTCAAGAAGGCAAGCCCCAATGGAAAGCTCACCGTCTACCTGGGAA
AGCGGGACTTTGTGGACCACATTGACCTGGTGGACCCCGTGGATGGCGTGGTCCTGGTGGATCCTGAGTA
TCTCAAAGAAAGGCGAGTCTACGTGACACTGACCTGCGCCTTCCGGTATGGCCGGGAAGACCTGGATGTC
TTGGGTCTGACTTTTCGCAAAGACCTGTTTGTGGCTAACGTGCAGTCCTTCCCACCGGCCCCTGAGGACA
AGAAGCCACTGACTCGGCTACAAGAGCGACTCATCAAGAAGCTGGGCGAGCATGCCTACCCCTTCACCTT
TGAGATCCCGCCAAACCTTCCGTGCTCAGTCACATTGCAACCTGGGCCTGAGGACACAGGGAAGGCCTGC
GGTGTGGATTATGAAGTGAAAGCCTTCTGTGCTGAGAACCTGGAGGAGAAGATCCACAAAAGGAATTCTG
TGCGGCTAGTCATCCGGAAGGTTCAATATGCCCCTGAGAGGCCTGGCCCTCAGCCCACGGCTGAGACCAC
CAGACAGTTCCTCATGTCGGACAAGCCCCTGCACCTTGAGGCATCTCTGGATAAGGAGATCTATTATCAT
GGAGAACCCATCAGCGTCAATGTCCATGTCACCAACAACACCAACAAGACTGTGAAGAAGATCAAGATCT
CGGTGCGCCAGTATGCAGACATCTGTCTCTTCAACACAGCTCAGTACAAGTGCCCAGTGGCCATGGAGGA
AGCTGATGATACTGTGGCACCCAGCTCAACATTCTGCAAGGTCTACACACTGACTCCCTTCCTGGCAAAC
AACAGAGAGAAGCGGGGGCTTGCCCTCGACGGGAAGCTCAAGCATGAAGACACAAATCTGGCTTCCAGCA
CTCTGTTGCGGGAAGGCGCCAACCGTGAAATCCTGGGTATCATTGTTTCCTACAAAGTCAAAGTGAAGCT
GGTGGTGTCCCGGGGCGGCCTGTTGGGAGACCTTGCATCCAGTGATGTGGCTGTGGAACTGCCCTTTACC
TTAATGCACCCCAAGCCTAAAGAGGAGCCCCCACATCGGGAAGTTCCAGAGAGCGAGACTCCAGTAGACA
CCAATCTCATAGAGCTTGACACCAATGATGACGACATTGTGTTTGAGGACTTTGCTCGTCAGCGGCTGAA
AGGCATGAAGGATGACAAGGACGAAGAGGATGATGGCACCGGCTCTCCACACCTCAACAACAGATAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Restriction Sites:	SgfI-MluI
ACCN:	NM_012910
Insert Size:	1257 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_012910.2, NP_037042.1
RefSeq Size:	1353 bp
RefSeq ORF:	1257 bp
Locus ID:	25387
UniProt ID:	P29066
Cytogenetics:	1q32
Gene Summary:	Functions in regulating agonist-mediated G-protein coupled receptor (GPCR) signaling by mediating both receptor desensitization and resensitization processes. During homologous desensitization, beta-arrestins bind to the GPRK-phosphorylated receptor and sterically preclude its coupling to the cognate G-protein; the binding appears to require additional receptor determinants exposed only in the active receptor conformation. The beta-arrestins target many receptors for internalization by acting as endocytic adapters (CLASPs, clathrin-associated sorting proteins) and recruiting the GPRCs to the adapter protein 2 complex 2 (AP-2) in clathrin-coated pits (CCPs). However, the extent of beta-arrestin involvement appears to vary significantly depending on the receptor, agonist and cell type. Internalized arrestin-receptor complexes traffic to intracellular endosomes, where they remain uncoupled from G-proteins. Two different modes of arrestin-mediated internalization occur. Class A receptors, like ADRB2, OPRM1, ENDRA, D1AR and ADRA1B dissociate from beta-arrestin at or near the plasma membrane and undergo rapid recycling. Class B receptors, like AVPR2, AGTR1, NTSR1, TRHR and TACR1 internalize as a complex with arrestin and traffic with it to endosomal vesicles, presumably as desensitized receptors, for extended periods of time. Receptor resensitization then requires that receptor-bound arrestin is removed so that the receptor can be dephosphorylated and returned to the plasma membrane. Involved in internalization

of P2RY4 and UTP-stimulated internalization of P2RY2. Involved in phosphorylation-dependent internalization of OPRD1 ands subsequent recycling. Involved in the degradation of cAMP by recruiting cAMP phosphodiesterases to ligand-activated receptors. Beta-arrestins function as multivalent adapter proteins that can switch the GPCR from a G-protein signaling mode that transmits short-lived signals from the plasma membrane via small molecule second messengers and ion channels to a beta-arrestin signaling mode that transmits a distinct set of signals that are initiated as the receptor internalizes and transits the intracellular compartment. Acts as signaling scaffold for MAPK pathways such as MAPK1/3 (ERK1/2). ERK1/2 activated by the beta-arrestin scaffold is largely excluded from the nucleus and confined to cytoplasmic locations such as endocytic vesicles, also called beta-arrestin signalosomes. Recruits c-Src/SRC to ADRB2 resulting in ERK activation. GPCRs for which the beta-arrestin-mediated signaling relies on both ARRB1 and ARRB2 (codependent regulation) include ADRB2, F2RL1 and PTH1R. For some GPCRs the beta-arrestin-mediated signaling relies on either ARRB1 or ARRB2 and is inhibited by the other respective beta-arrestin form (reciprocal regulation). Inhibits ERK1/2 signaling in AGTR1- and AVPR2-mediated activation (reciprocal regulation). Is required for SP-stimulated endocytosis of NK1R and recruits c-Src/SRC to internalized NK1R resulting in ERK1/2 activation, which is required for the antiapoptotic effects of SP. Is involved in proteinase-activated F2RL1-mediated ERK activity. Acts as signaling scaffold for the AKT1 pathway. Is involved in alpha-thrombin-stimulated AKT1 signaling. Is involved in IGF1-stimulated AKT1 signaling leading to increased protection from apoptosis. Involved in activation of the p38 MAPK signaling pathway and in actin bundle formation. Involved in F2RL1-mediated cytoskeletal rearrangement and chemotaxis. Involved in AGTR1-mediated stress fiber formation by acting together with GNAQ to activate RHOA. Appears to function as signaling scaffold involved in regulation of MIP-1-beta-stimulated CCR5-dependent chemotaxis. Involved in attenuation of NF-kappa-B-dependent transcription in response to GPCR or cytokine stimulation by interacting with and stabilizing CHUK. May serve as nuclear messenger for GPCRs. Involved in OPRD1-stimulated transcriptional regulation by translocating to CDKN1B and FOS promoter regions and recruiting EP300 resulting in acetyla