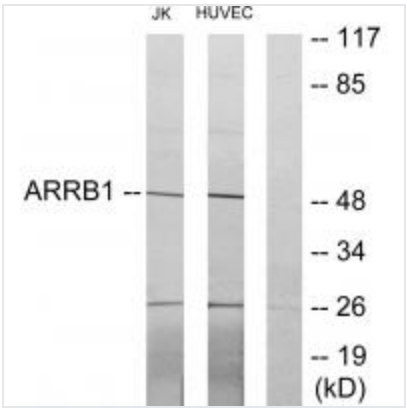
ARRB1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ARRB1, Polyclonal Antibody
Full Product Name	ARRB1 Antibody
Product Gene Name	anti-ARRB1 antibody
Product Synonym Names	ARR1; arrestin 2; arrestin beta 1; beta-arrestin-1
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Concentration	1.0 mg/ml (lot specific)
Specificity	The antibody detects endogenous levels of total ARRB1 protein.
Preparation and Storage	Store at -20 degree C
Molecular Weight	46,309 Da
OMIM	107940
3D Structure	ModBase 3D Structure for P49407
Immunogen Type	Peptide
Immunogen Description	Synthesized peptide derived from C-terminal of human ARRB1.
Target Name	ARRB1
Product Categories/Family for anti-ARRB1 antibody	Total protein Ab
Applications Tested/Suitable for anti-ARRB1 antibody	Western Blot (WB)
Application Notes for anti-ARRB1 antibody	Western blotting: 1:500~1:3000

Related Product Information for anti-ARRB1 antibody	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 acetylation of histone H4. Involved in regulation of LEF1 transcriptional activity via interaction with DVL1 and/or DVL2 Also involved in regulation of receptors other than GPCRs. Involved in Toll-like receptor and IL-1 receptor signaling through the interaction with TRAF6 which prevents TRAF6 autoubiquitination and oligomerization required for activation of NF-kappa-B and JUN. Binds phosphoinositides. Binds inositolhexakisphosphate (InsP6) By similarity. Involved in IL8-mediated granule release in neutrophils. Required for atypical chemokine receptor ACKR2-induced RAC1-LIMK1-PAK1-dependent phosphorylation of cofilin (CFL1) and for the up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation. Involved in the internalization of the atypical chemokine receptor ACKR3.Parruti G., J. Biol. Chem. 268:9753-9761(1993).Yu Q.M., Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases. MGC Project Team, Genome Res. 14:2121-2127(2004).
Other Notes	Small volumes of anti-ARRB1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ARRB1 purchase	MBS9407948 is an antibody targeting ARRB1. Also known as ARRB1 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Western Blot (WB) of anti-ARRB1 antibody
Western blot analysis of extracts from Jurkat cells and HUVEC cells, using ARRB1 antibody.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ARRB1. It may not necessarily be applicable to this product.

NCBI GI #	10880136
NCBI GeneID	408
NCBI Accession #	NP_004032.2
UniProt Primary Accession #	P49407
UniProt Secondary Accession #	O75625; O75630; Q2PP20; Q9BTK8; B6V9G8
UniProt Related Accession #	P49407
GenBank Nucleotide #	NM_004041.4
NCBI Official Full Name	beta-arrestin-1 isoform A
NCBI Official Synonym Full Names	arrestin, beta 1
NCBI Official Symbol	ARRB1
NCBI Official Synonym Symbols	ARB1; ARR1
UniProt Protein Name	Beta-arrestin-1
UniProt Synonym Protein Names	Arrestin beta-1
Protein Family	Beta-arrestin
UniProt Gene Name	ARRB1
UniProt Synonym Gene Names	ARR1
UniProt Entry Name	ARRB1_HUMAN
NCBI Protein Information	beta-arrestin-1
NCBI Summary for ARRB1	Members of arrestin/beta-arrestin protein family are thought to participate in agonist-mediated desensitization of G-protein-coupled receptors and cause specific dampening of cellular responses to stimuli such as hormones, neurotransmitters, or sensory signals. Arrestin beta 1 is a cytosolic protein and acts as a cofactor in the beta-adrenergic receptor kinase (BARK) mediated desensitization of beta-adrenergic receptors. Besides the central nervous system, it is expressed at high levels in peripheral blood leukocytes, and thus the BARK/beta-arrestin system is believed to play a major role in regulating receptor-mediated immune functions. Alternatively spliced transcripts encoding different isoforms of arrestin beta 1 have been described. [provided by RefSeq, Jan 2011]

UniProt Comments for ARRB1	ARRB1: regulates G-protein coupled receptors (GPCR) signaling by mediating both receptor desensitization and resensitization processes. Binds to GRK-phosphorylated receptor and sterically preclude its coupling to the cognate G- protein; the binding appears to require receptor determinants exposed only in the active receptor conformation. Targets many receptors for internalization by acting as endocytic adapters (CLASPs, clathrin-associated sorting proteins). Internalized arrestin-receptor complexes traffic to intracellular endosomes, where they remain uncoupled from G-proteins. Two different modes of arrestin-mediated internalization occur. 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. Also involved in regulation of receptors other than GPCRs. Involved in Toll-like receptor and IL-1 receptor signaling through the interaction with TRAF6 which prevents TRAF6 autoubiquitination and oligomerization required for activation of NF-kappa-B and JUN. Binds phosphoinositides. Binds inositolhexakisphosphate (InsP6). Involved in IL8-mediated granule release in neutrophils. Interacts with phosphorylated ADRB2 and CHRM2. Interacts with SRC (via the SH3 domain and the protein kinase domain); the interaction is independent of the phosphorylation state of SRC C-terminus. Interacts with RAF1, CHUK, IKBKB and Nik. Interacts with DVL1 and DVL2; the interaction is enhanced by DVL phosphorylation. Interacts with IGF1R. Belongs to the arrestin family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Adaptor/scaffold Chromosomal Location of Human Ortholog: 11q13 Cellular Component: cytoplasmic vesicle membrane; lysosomal membrane; coated pit; pseudopodium; cytosol; Golgi membrane; nucleoplasm; cytoplasm; plasma membrane; heterotrimeric G-protein complex; cytoplasmic vesicle; chromatin; nucleus Molecular Function: angiotensin receptor binding; enzyme inhibitor activity; insulin-like growth factor receptor binding; protein binding; histone acetyltransferase activity; mitogen-activated protein kinase kinase binding; ubiquitin protein ligase binding; caspase inhibitor activity; transcription factor binding; GTPase activator activity Biological Process: transcription from RNA polymerase II promoter; proteasomal ubiquitin-dependent protein catabolic process; platelet activation; Notch signaling pathway; positive regulation of protein binding; positive regulation of receptor internalization; protein ubiquitination; positive regulation of Rho protein signal transduction; negative regulation of caspase activity; positive regulation of peptidyl-serine phosphorylation; protein transport; G-protein coupled receptor internalization; inhibition of NF-kappaB transcription factor; stress fiber formation; phototransduction; negative regulation of interleukin-8 production; negative regulation of interleukin-6 production; positive regulation of transcription from RNA polymerase II promoter; negative regulation of protein ubiquitination; positive regulation of histone acetylation; post-Golgi vesicle-mediated transport; positive regulation of protein amino acid phosphorylation; blood coagulation; positive regulation of GTPase activity
Research Articles on ARRB1	**1.** High ARBB1 expression is associated with metastasis in non-small cell lung cancers.
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