SANTA CRUZ BIOTECHNOLOGY, INC.

β-Arrestin-1/2 (A-1): sc-74591

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. Members of the β-Arrestin family regulate receptor binding to G proteins. β-Arrestins have been found to be located at postsynaptic sites, where they are thought to act in concert with βARK (βARK1, also designated GRK 2, or βARK2, also designated GRK 3) to regulate G protein-coupled neurotransmitter receptors. Expression of β-Arrestin-1 and β-Arrestin-2 is seen predominantly in spleen and neuronal tissues. It has been shown that β-Arrestin-1 expression is modulated by intracellular cAMP, which may be a novel mechanism for the regulation of receptor-mediated responses.

CHROMOSOMAL LOCATION

Genetic locus: ARRB1 (human) mapping to 11q13.4, ARRB2 (human) mapping to 17p13.2; Arrb1 (mouse) mapping to 7 E2, Arrb2 (mouse) mapping to 11 B3.

SOURCE

β-Arrestin-1/2 (A-1) is a mouse monoclonal antibody raised against amino acids 7-290 mapping near the N-terminus of β-Arrestin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-Arrestin-1/2 (A-1) is available conjugated to agarose (sc-74591 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74591 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74591 PE), fluorescein (sc-74591 FITC), Alexa Fluor® 488 (sc-74591 AF488), Alexa Fluor® 546 (sc-74591 AF546), Alexa Fluor® 594 (sc-74591 AF594) or Alexa Fluor® 647 (sc-74591 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74591 AF680) or Alexa Fluor® 790 (sc-74591 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β-Arrestin-1/2 (A-1) is recommended for detection of β-Arrestin-1 and β-Arrestin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

β-Arrestin-1/2 (A-1) is also recommended for detection of β-Arrestin-1 and β-Arrestin-2 in additional species, including porcine.

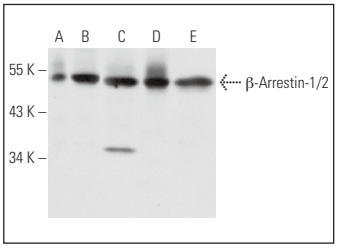
Molecular Weight of β-Arrestin-1/2: 55 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, Hep G2 cell lysate: sc-2227 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

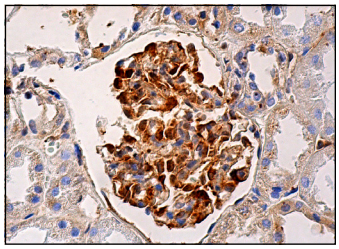
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



β-Arrestin-1/2 (A-1): sc-74591. Western blot analysis of β-Arrestin-1/2 expression in SK-N-MC (**A**), Hep G2 (**B**), T84 (**C**), NTERA-2 cl.D1 (**D**) and A549 (**E**) whole cell lysates.



β-Arrestin-1/2 (A-1): sc-74591. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of glomerular cells.

SELECT PRODUCT CITATIONS

1. Por, E.D., et al. 2012. β-Arrestin-2 desensitizes the transient receptor potential vanilloid 1 (TRPV1) channel. J. Biol. Chem. 287: 37552-37563.
2. Daniele, S., et al. 2014. Does GRK-β arrestin machinery work as a "switch on" for GPR17-mediated activation of intracellular signaling pathways? Cell. Signal. 26: 1310-1325.
3. Blume, L.C., et al. 2017. Cannabinoid receptor interacting protein 1a competition with β-Arrestin for CB1 receptor binding sites. Mol. Pharmacol. 91: 75-86.
4. Sabbir, M.G. and Fernyhough, P. 2018. Muscarinic receptor antagonists activate ERK-CREB signaling to augment neurite outgrowth of adult sensory neurons. Neuropharmacology 143: 268-281.
5. Carmona-Rosas, G., et al. 2019. Distinct phosphorylation sites/clusters in the carboxyl terminus regulate α_{1D}-adrenergic receptor subcellular localization and signaling. Cell. Signal. 53: 374-389.
6. Ma, Z., et al. 2019. Vascular endothelial growth factor receptor 3 regulates endothelial function through β-Arrestin 1. Circulation 139: 1629-1642.
7. Alcántara-Hernández, R., et al. 2020. Glycogen synthase kinase-3 modulates α_{1A}-adrenergic receptor action and regulation. Eur. J. Cell Biol. 99: 151072.
8. Wang, G., et al. 2020. The G protein-coupled receptor FFAR2 promotes internalization during influenza A virus entry. J. Virol. 94: e01707-19.
9. Kim, C.W., et al. 2022. The role of KiSS1 gene on the growth and migration of prostate cancer and the underlying molecular mechanisms. Life Sci. 310: 121009.

RESEARCH USE

For research use only, not for use in diagnostic procedures.