SANTA CRUZ BIOTECHNOLOGY, INC.

β-Arrestin-1 (25-G10): sc-53780

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 are 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; Arrb1 (mouse) mapping to 7 E2.

SOURCE

β-Arrestin-1 (25-G10) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to a region surrounding Ser 86 to Thr 98 of β-Arrestin-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

β-Arrestin-1 (25-G10) is recommended for detection of β-Arrestin 1 of mouse, rat, human and bovine origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with β-Arrestin 2.

Suitable for use as control antibody for β-Arrestin-1 siRNA (h): sc-29741, β-Arrestin-1 siRNA (m): sc-29742, β-Arrestin-1 siRNA (r): sc-63298, β-Arrestin-1 shRNA Plasmid (h): sc-29741-SH, β-Arrestin-1 shRNA Plasmid (m): sc-29742-SH, β-Arrestin-1 shRNA Plasmid (r): sc-63298-SH, β-Arrestin-1 shRNA (h) Lentiviral Particles: sc-29741-V, β-Arrestin-1 shRNA (m) Lentiviral Particles: sc-29742-V and β-Arrestin-1 shRNA (r) Lentiviral Particles: sc-63298-V.

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

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

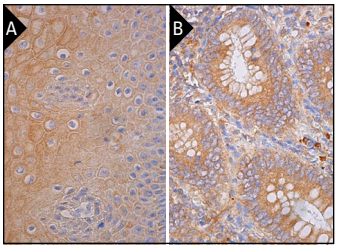
STORAGE

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

RESEARCH USE

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

DATA



β-Arrestin-1 (25-G10): sc-53780. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Anthony, D.F., et al. 2011. β-Arrestin-1 inhibits the GTPase-activating protein function of ARHGAP21, promoting activation of RhoA following Angiotensin II type 1A receptor stimulation. Mol. Cell. Biol. 31: 1066-1075.
2. Tan, S., et al. 2019. β-Arrestin1 enhances liver fibrosis through autophagy-mediated Snail signaling. FASEB J. 33: 2000-2016.
3. Fang, Y., et al. 2021. Opposing functions of β-Arrestin-1 and 2 in Parkinson's disease via microglia inflammation and Nprl3. Cell Death Differ. 28: 1822-1836.
4. Fang, Y., et al. 2022. Fluoxetine inhibited the activation of A1 reactive astrocyte in a mouse model of major depressive disorder through astrocytic 5-HT2BR/β-Arrestin2 pathway. J. Neuroinflammation 19: 23.
5. Qiu, N., et al. 2023. IFT20 confers paclitaxel resistance by triggering β-arrestin-1 to modulate ASK1 signaling in breast cancer. Mol. Cancer Res. 21: 214-227.
6. Yang, Y., et al. 2024. Dietary vitamin B3 supplementation induces the antitumor immunity against liver cancer via biased GPR109A signaling in myeloid cell. Cell Rep. Med. 5: 101718.
7. Kim, E.Y., et al. 2024. Role of formyl peptide receptors and β-arrestin-1 in suPAR signal transduction in mouse podocytes: interactions with αVβ3-integrin. Cells 13: 172.
8. Wang, D.P., et al. 2024. Alleviating CB2-dependent ER stress and mitochondrial dysfunction improves chronic cerebral hypoperfusion-induced cognitive impairment. J. Neuroimmune Pharmacol. 19: 1.