

β -Arrestin-2 (B-4): sc-365445

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 β ARK (β ARK1, also designated GRK 2, or β ARK2, 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.

REFERENCES

1. Hausdorff, W.P., et al. 1990. Two kinases mediate agonist-dependent phosphorylation and desensitization of the β_2 -adrenergic receptor. *Symp. Soc. Exp. Biol.* 44: 225-240.
2. Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.

CHROMOSOMAL LOCATION

Genetic locus: ARRB2 (human) mapping to 17p13.2; Arrb2 (mouse) mapping to 11 B3.

SOURCE

β -Arrestin-2 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 385-408 at the C-terminus of β -Arrestin-2 of human origin.

PRODUCT

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

β -Arrestin-2 (B-4) is available conjugated to agarose (sc-365445 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365445 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365445 PE), fluorescein (sc-365445 FITC), Alexa Fluor® 488 (sc-365445 AF488), Alexa Fluor® 546 (sc-365445 AF546), Alexa Fluor® 594 (sc-365445 AF594) or Alexa Fluor® 647 (sc-365445 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365445 AF680) or Alexa Fluor® 790 (sc-365445 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365445 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

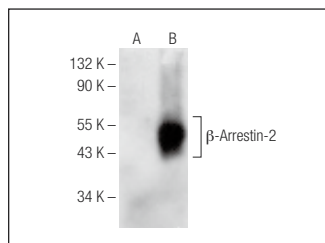
β -Arrestin-2 (B-4) is recommended for detection of β -Arrestin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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).

Suitable for use as control antibody for β -Arrestin-2 siRNA (h): sc-29208, β -Arrestin-2 siRNA (m): sc-29743, β -Arrestin-2 siRNA (r): sc-63299, β -Arrestin-2 shRNA Plasmid (h): sc-29208-SH, β -Arrestin-2 shRNA Plasmid (m): sc-29743-SH, β -Arrestin-2 shRNA Plasmid (r): sc-63299-SH, β -Arrestin-2 shRNA (h) Lentiviral Particles: sc-29208-V, β -Arrestin-2 shRNA (m) Lentiviral Particles: sc-29743-V and β -Arrestin-2 shRNA (r) Lentiviral Particles: sc-63299-V.

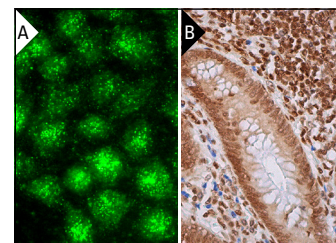
Molecular Weight of β -Arrestin-2: 55 kDa.

Positive Controls: β -Arrestin-2 (h): 293T Lysate: sc-116903.

DATA



β -Arrestin-2 (B-4): sc-365445. Western blot analysis of β -Arrestin-2 expression in non-transfected: sc-117752 (A) and human β -Arrestin-2 transfected: sc-116903 (B) 293T whole cell lysates.



β -Arrestin-2 (B-4): sc-365445. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of glandular cells and lymphoid cells (B).

SELECT PRODUCT CITATIONS

1. Oliveira, V., et al. 2015. Diets containing α -linolenic (ω 3) or oleic (ω 9) fatty acids rescues obese mice from Insulin resistance. *Endocrinology* 156: 4033-4046.
2. Wang, R., et al. 2019. Ginsenoside metabolite compound-K regulates macrophage function through inhibition of β -Arrestin-2. *Biomed. Pharmacother.* 115: 108909.
3. Yan, C.H., et al. 2022. AMPK α 2 controls the anti-atherosclerotic effects of fish oils by modulating the SUMOylation of GPR120. *Nat. Commun.* 13: 7721.
4. Chodari, L., et al. 2023. Exercise may alleviate age-related spatial memory impairment by rescuing β -adrenergic receptor dysregulation via both G protein-dependent and β -Arrestin-dependent mechanisms in rat hippocampus. *Brain Res.* 1804: 148250.

RESEARCH USE

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