

# p-β-Arrestin-1 (Ser 412)-R: sc-16639-R

## 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. Members of the β-Arrestin family regulate receptor binding to G proteins. One member of this family, β-Arrestin-1, whose expression is modulated by intracellular cAMP, is predominantly expressed in spleen and neuronal tissues. The function of β-Arrestin-1 is to facilitate clathrin-mediated endocytosis of the β2-adrenergic receptor and to promote agonist-induced activation of ERK, which is regulated by the phosphorylation/dephosphorylation state of β-Arrestin-1 at Ser 412. Cytoplasmic β-Arrestin-1 is mostly phosphorylated at Ser 412 and dephosphorylation at the plasma membrane is required for targeting a signaling complex to the Clathrin-coated pits. For example, dephosphorylation at Ser 412 mediates endocytosis-dependent ERK activation and following activation, ERKs phosphorylates β-Arrestin-1 to exert an inhibitory feedback control of its function.

## REFERENCES

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2. Parruti, G., Peracchia, F., Sallèse, M., Ambrosini, G., Masini, M., Rotilio, D. and De Blasi, A. 1993. Molecular analysis of human β-Arrestin-1: cloning, tissue distribution and regulation of expression. Identification of two isoforms generated by alternative splicing. *J. Biol. Chem.* 268: 9753-9761.
3. Dolph, P.J., Ranganathan, R., Colley, N.J., Hardy, R.W., Socolich, M. and Zuker, C.S. 1993. Arrestin function in inactivation of G protein-coupled receptor rhodopsin *in vivo*. *Science* 260: 1910-1916.
4. Barak, L.S., Menard, L., Ferguson, S.S., Colapietro, A.M. and Caron, M.G. 1995. The conserved seven-transmembrane sequence NP(X)2,3Y of the G protein-coupled receptor superfamily regulates multiple properties of the β2-adrenergic receptor. *Biochem.* 34: 15407-15414.

## CHROMOSOMAL LOCATION

Genetic locus: ARRB1 (human) mapping to 11q13; Arrb1 (mouse) mapping to 7 E1.

## SOURCE

p-β-Arrestin-1 (Ser 412)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 412 of β-Arrestin-1 of human origin.

## PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16639-R P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-β-Arrestin-1 (Ser 412)-R is recommended for detection of Ser 412 phosphorylated β-Arrestin-1 of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

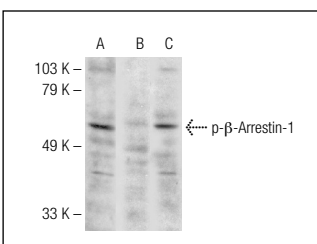
Suitable for use as control antibody for β-Arrestin-1 siRNA (h): sc-29741, β-Arrestin-1 siRNA (m): sc-29742, β-Arrestin-1 siRNA (r): sc-63298, β-Arrestin-1 shRNA Plasmid (h): sc-29741-SH, β-Arrestin-1 shRNA Plasmid (m): sc-29742-SH, β-Arrestin-1 shRNA Plasmid (r): sc-63298-SH, β-Arrestin-1 shRNA (h)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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



p-β-Arrestin-1 (Ser 412)-R: sc-16639-R. Western blot analysis of β-Arrestin-1 phosphorylation in RAW 264.7 cells. Antibody was preincubated with either the cognate phosphopeptide (A) or unphosphorylated peptide (B).

## 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.