SANTA CRUZ BIOTECHNOLOGY, INC.

Visual Arrestin (E-3): sc-166383

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the Arrestin/β-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. Visual Arrestin, also known as Arrestin, retinal S-antigen or S-Arrestin, is a major soluble photoreceptor protein that regulates light-dependent signal transduction through G protein-coupled receptor (rhodopsin) activation. Visual Arrestin is expressed in retinal photoreceptor cells and the pineal gland. Visual Arrestin is the major pathogenic autoantigen in inflammatory eye disease, such as uveoretinitis and Oguchi disease, a rare autosomal recessive form of night blindness.

CHROMOSOMAL LOCATION

Genetic locus: SAG (human) mapping to 2q37.1; Sag (mouse) mapping to 1 D.

SOURCE

Visual Arrestin (E-3) is a mouse monoclonal antibody raised against amino acids 316-405 mapping at the C-terminus of Visual Arrestin of human origin.

PRODUCT

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

Visual Arrestin (E-3) is available conjugated to agarose (sc-166383 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166383 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166383 PE), fluorescein (sc-166383 FITC), Alexa Fluor® 488 (sc-166383 AF488), Alexa Fluor® 546 (sc-166383 AF546), Alexa Fluor® 594 (sc-166383 AF594) or Alexa Fluor® 647 (sc-166383 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166383 AF680) or Alexa Fluor® 790 (sc-166383 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Visual Arrestin (E-3) is recommended for detection of Visual Arrestin 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).

Suitable for use as control antibody for Visual Arrestin siRNA (h): sc-45467, Visual Arrestin siRNA (m): sc-45468, Visual Arrestin shRNA Plasmid (h): sc-45467-SH, Visual Arrestin shRNA Plasmid (m): sc-45468-SH, Visual Arrestin shRNA (h) Lentiviral Particles: sc-45467-V and Visual Arrestin shRNA (m) Lentiviral Particles: sc-45468-V.

Molecular Weight of Visual Arrestin: 48 kDa.

Positive Controls: Visual Arrestin (m): 293T Lysate: sc-124570, mouse eye extract: sc-364241 or rat eye extract: sc-364805.

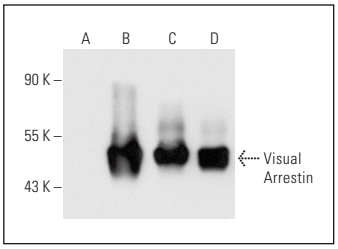
RESEARCH USE

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

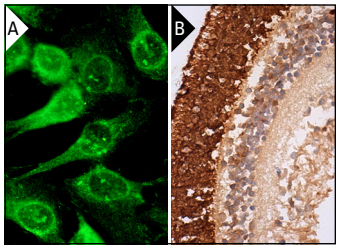
STORAGE

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

DATA



Visual Arrestin (E-3): sc-166383. Western blot analysis of Visual Arrestin expression in non-transfected: sc-117752 (**A**) and mouse Visual Arrestin transfected: sc-124570 (**B**) 293T whole cell lysates and mouse eye (**C**) and rat eye (**D**) tissue extracts.



Visual Arrestin (E-3): sc-166383. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fetal eye tissue showing cytoplasmic and nuclear staining of cells in retina (**B**).

SELECT PRODUCT CITATIONS

1. Zulliger, R., et al. 2015. SNAREs interact with retinal degeneration slow and rod outer segment membrane protein-1 during conventional and unconventional outer segment targeting. PLoS ONE 10: e0138508.
2. Kelley, R.A., et al. 2015. Retbindin is an extracellular riboflavin-binding protein found at the photoreceptor/retinal pigment epithelium interface. J. Biol. Chem. 290: 5041-5052.
3. Ashton, A., et al. 2018. Rhythmic diurnal synthesis and signaling of retinoic acid in the rat pineal gland and its action to rapidly downregulate ERK phosphorylation. Mol. Neurobiol. 55: 8219-8235.
4. McWilliams, T.G., et al. 2019. A comparative map of macroautophagy and mitophagy in the vertebrate eye. Autophagy 15: 1296-1308.
5. Hernández-Pinto, A., et al. 2019. PEDF peptides promote photoreceptor survival in rd10 retina models. Exp. Eye Res. 184: 24-29.
6. Yang, P., et al. 2020. Suppression of cGMP-dependent photoreceptor cytotoxicity with mycophenolate is neuroprotective in murine models of retinitis pigmentosa. Invest. Ophthalmol. Vis. Sci. 61: 25.
7. Herrera-Barrera, M., et al. 2023. Peptide-guided lipid nanoparticles deliver mRNA to the neural retina of rodents and nonhuman primates. Sci. Adv. 9: eadd4623.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.