SANTA CRUZ BIOTECHNOLOGY, INC.

MEL-1A-R (V-15): sc-13180

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Melatonin (Mel), a hormone secreted by the pineal gland, is expressed at night in response to the circadian clock. Melatonin is thought to be involved in regulating reproductive physiological development and the progression of sexual maturation, and it is also thought to play a role in tumorigenesis. The melatonin receptors, MEL-1A-R and MEL-1B-R, are members of the superfamily of guanine nucleotide-binding regulatory protein (G protein)-coupled receptors. Signaling through the melatonin receptors inhibits adenylate cyclase and stimulates phospholipase Cβ upon activation of pertussis toxin (PTX)-sensitive G proteins. MEL-1A-R may be involved in pacing the biological clock. However, both MEL-1A-R and MEL-1B-R are implicated in controlling cellular growth in response to melatonin.

REFERENCES

1. Luboshitzky, R. and Lavie, P. 1999. Melatonin and sex hormone interrelationships—a review. J. Pediatr. Endocrinol. Metab. 12: 355-362.
2. Brydon, L., et al. 1999. Dual signaling of human MEL-1A melatonin receptors via G12, G_{i3}, and $G_{q/11}$ proteins. Mol. Endocrinol. 13: 2025-2038.
3. Roka, F., et al. 1999. Tight association of the human MEL-1A-melatonin receptor and G_i: precoupling and constitutive activity. Mol. Pharmacol. 56: 1014-1024.
4. Pevet, P. 2000. Melatonin and biological rhythms. Biol. Signals Recept. 9: 203-212.
5. Cos, S. and Sanchez-Barcelo, E.J. 2000. Melatonin and mammary pathological growth. Front. Neuroendocrinol. 21: 133-170.
6. Shiu, S.Y., et al. 2000. Biological basis and possible physiological implications of melatonin receptor-mediated signaling in the rat epididymis. Biol. Signals Recept. 9: 172-187.
7. Roberts, J.E., et al. 2000. Melatonin receptors in human uveal melanocytes and melanoma cells. J. Pineal Res. 28: 165-171.

CHROMOSOMAL LOCATION

Genetic locus: MTNR1A (human) mapping to 4q35.2; Mtnr1a (mouse) mapping to 8 B1.1.

SOURCE

MEL-1A-R (V-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MEL-1A-R 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-13180 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MEL-1A-R (V-15) is recommended for detection of MEL-1A-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MEL-1A-R (V-15) is also recommended for detection of MEL-1A-R in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for MEL-1A-R siRNA (h): sc-35917, MEL-1A-R siRNA (m): sc-40113, MEL-1A-R shRNA Plasmid (h): sc-35917-SH, MEL-1A-R shRNA Plasmid (m): sc-40113-SH, MEL-1A-R shRNA (h) Lentiviral Particles: sc-35917-V and MEL-1A-R shRNA (m) Lentiviral Particles: sc-40113-V.

Molecular Weight of MEL-1A-R: 37 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or IMR-32 cell lysate: sc-2409.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Rahman, S.A., et al. 2008. Selectively filtering short wavelengths attenuates the disruptive effects of nocturnal light on endocrine and molecular circadian phase markers in rats. Endocrinology 149: 6125-6135.
2. da Silva, C.M., et al. 2011. Melatonin reduces lipid peroxidation and apoptotic-like changes in stallion spermatozoa. J. Pineal Res. 51: 172-179.

RESEARCH USE

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

PROTOCOLS

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