SANTA CRUZ BIOTECHNOLOGY, INC.

MEL-1B-R (V-12): sc-28456

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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. The melatonin receptors are activated by the hormone melatonin (Mel), which is secreted by the pineal gland at night as part of the circadian clock. MEL-1A-R is thought to be involved in pacing the biological clock. Both MEL-1A-R and MEL-1B-R are implicated in controlling cellular growth in response to melatonin. MEL-1B-R is an integral membrane protein expressed in retina and, to a lesser extent, in brain and hippocampus. Functional studies of NIH/3T3 cells stably expressing the MEL-1B-R melatonin receptor indicate that it is coupled to inhibition of adenylyl cyclase.

REFERENCES

1. Reppert, S.M., et al. 1995. Molecular characterization of a second melatonin receptor expressed in human retina and brain: the Mel1b melatonin receptor. Proc. Natl. Acad. Sci. USA 92: 8734-8738.
2. Reppert, S.M., et al. 1996. Cloning of a melatonin-related receptor from human pituitary. FEBS Lett. 386: 219-224.
3. Brzezinski, A. 1997. Melatonin in humans. N. Engl. J. Med. 336: 186-195.
4. Niles, L.P., et al. 1999. Melatonin receptor mRNA expression in human granulosa cells. Mol. Cell. Endocrinol. 156: 107-110.
5. Ebisawa, T., et al. 2000. Genetic polymorphisms of human melatonin 1b receptor gene in circadian rhythm sleep disorders and controls. Neurosci. Lett. 280: 29-32.
6. Yuan, L., et al. 2002. MT_1 melatonin receptor overexpression enhances the growth suppressive effect of melatonin in human breast cancer cells. Mol. Cell. Endocrinol. 192: 147-156.
7. Ayoub, M.A., et al. 2002. Monitoring of ligand-independent dimerization and ligand-induced conformational changes of melatonin receptors in living cells by bioluminescence resonance energy transfer. J. Biol. Chem. 277: 21522-21528.
8. Slominski, A., et al. 2003. Functional activity of serotoninergic and melatoninergic systems expressed in the skin. J. Cell. Physiol. 196: 144-153.

CHROMOSOMAL LOCATION

Genetic locus: Mtnr1b (mouse) mapping to 9 A2.

SOURCE

MEL-1B-R (V-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of MEL-1B-R of mouse 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-28456 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEL-1B-R (V-12) is recommended for detection of MEL-1B-R of mouse and, to a lesser extent, rat 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).

Suitable for use as control antibody for MEL-1B-R siRNA (m): sc-149365, MEL-1B-R shRNA Plasmid (m): sc-149365-SH and MEL-1B-R shRNA (m) Lentiviral Particles: sc-149365-V.

Molecular Weight of MEL-1B-R: 36 kDa.

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. Alarma-Estrany, P., et al. 2008. Sympathetic nervous system modulates the ocular hypotensive action of MT_2-melatonin receptors in normotensive rabbits. J. Pineal Res. 45: 468-475.

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.

PROTOCOLS

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