SANTA CRUZ BIOTECHNOLOGY, INC.

MEL-1B-R (T-18): sc-13177

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.

CHROMOSOMAL LOCATION

Genetic locus: MTNR1B (human) mapping to 11q14.3; Mtnr1b (mouse) mapping to 9 A2.

SOURCE

MEL-1B-R (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-13177 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEL-1B-R (T-18) is recommended for detection of MEL-1B-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-1B-R (T-18) is also recommended for detection of MEL-1B-R in additional species, including equine and porcine.

Suitable for use as control antibody for MEL-1B-R siRNA (h): sc-40114, MEL-1B-R siRNA (m): sc-149365, MEL-1B-R shRNA Plasmid (h): sc-40114-SH, MEL-1B-R shRNA Plasmid (m): sc-149365-SH, MEL-1B-R shRNA (h) Lentiviral Particles: sc-40114-V and MEL-1B-R shRNA (m) Lentiviral Particles: sc-149365-V.

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

SELECT PRODUCT CITATIONS

1. Richter, H.G., et al. 2007. Rhythmic expression of functional MT1 melatonin receptors in the rat adrenal gland. Endocrinology 149: 995-1003.
2. Lyssenko, V., et al. 2009. Common variant in MTNR1B associated with increased risk of type 2 diabetes and impaired early Insulin secretion. Nat. Genet. 41: 82-88.
3. Zhao, W.J., et al. 2010. Melatonin potentiates glycine currents through a PLC/PKC signalling pathway in rat retinal ganglion cells. J. Physiol. 588: 2605-2619.
4. Ahmad, R., et al. 2010. Photoperiodic regulation of MT1 and MT2 melatonin receptor expression in spleen and thymus of a tropical rodent *Funambulus pennanti* during reproductively active and inactive phases. Chronobiol. Int. 27: 446-462.
5. Kharwar, R.K., et al. 2011. Reproductive phase dependent daily variation in melatonin receptors (Mel(1a) and Mel(1b)), androgen receptor (AR) and lung associated immunity of *Perdicula asiatica*. Comp. Biochem. Physiol., Part A Mol. Integr. Physiol. 159: 119-124.
6. Yang, X.F., et al. 2011. Melatonin inhibits tetraethylammonium-sensitive potassium channels of rod ON type bipolar cells via MT2 receptors in rat retina. Neuroscience 173: 19-29.
7. Kumar Kharwar, R., et al. 2011. Anatomical and histological profile of bronchus-associated lymphoid tissue and localization of melatonin receptor types (Mel 1a and Mel 1b) in the lung-associated immune system of a tropical bird, *Perdicula asiatica*. Acta Histochem. 113: 333-339.
8. Gonzalez, A., et al. 2011. Melatonin reduces pancreatic tumor cell viability by altering mitochondrial physiology. J. Pineal Res. 50: 250-260.
9. Nagorny, C.L., et al. 2011. Distribution of melatonin receptors in murine pancreatic islets. J. Pineal Res. 50: 412-417.
10. Choi, S.I., et al. 2011. Melatonin protects against oxidative stress in granular corneal dystrophy type 2 corneal fibroblasts by mechanisms that involve membrane melatonin receptors. J. Pineal Res. 51: 94-103.
11. Kharwar, R.K., et al. 2011. Photoperiod regulates lung-associated immunological parameters and melatonin receptor (Mel1a and Mel1b) in lungs of a tropical bird, Perdicula asiatica. Photochem. Photobiol. 87: 427-434.

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.