

# MEL-1A-R (N-20): sc-13179

## 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 C $\beta$  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 G<sub>12</sub>, G<sub>13</sub>, and G<sub>q/11</sub> proteins. *Mol. Endocrinol.* 13: 2025-2038.
3. Roka, F., et al. 1999. Tight association of the human MEL-1A-melatonin receptor and G<sub>i</sub>; precoupling and constitutive activity. *Mol. Pharmacol.* 56: 1014-1024.

## CHROMOSOMAL LOCATION

Genetic locus: MTNR1A (human) mapping to 4q35.2.

## SOURCE

MEL-1A-R (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of MEL-1A-R of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13179 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MEL-1A-R (N-20) is recommended for detection of MEL-1A-R of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 MEL-1A-R siRNA (h): sc-35917, MEL-1A-R shRNA Plasmid (h): sc-35917-SH and MEL-1A-R shRNA (h) Lentiviral Particles: sc-35917-V.

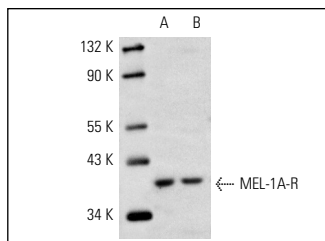
Molecular Weight of MEL-1A-R: 37 kDa.

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

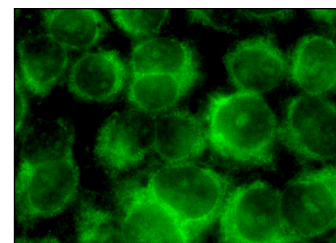
## RESEARCH USE

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

## DATA



MEL-1A-R (N-20): sc-13179. Western blot analysis of MEL-1A-R expression in SK-N-SH (A) and IMR-32 (B) whole cell lysates.



MEL-1A-R (N-20): sc-13179. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Lanoix, D., et al. 2006. Expression of melatonergic receptors in human placental choriocarcinoma cell lines. *Hum. Reprod.* 21: 1981-1989.
2. Peschke, E., et al. 2007. Melatonin and type 2 diabetes-a pollise link? *J. Pineal Res.* 42: 350-358.
3. Lanoix, D., et al. 2008. Human placental trophoblasts synthesize melatonin and express its receptors. *J. Pineal Res.* 45: 50-60.
4. Tam, C.W., et al. 2008. Melatonin as a negative mitogenic hormonal regulator of human prostate epithelial cell growth: potential mechanisms and clinical significance. *J. Pineal Res.* 45: 403-412.
4. Lardone, P.J., et al. 2010. Blocking of melatonin synthesis and MT<sub>1</sub> receptor impairs the activation of Jurkat T cells. *Cell. Mol. Life Sci.* 67: 3163-3172.
5. Shiu, S.Y., et al. 2010. Signal transduction of receptor-mediated antiproliferative action of melatonin on human prostate epithelial cells involves dual activation of G<sub>αs</sub> and G<sub>αq</sub> proteins. *J. Pineal Res.* 49: 301-311.
6. 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.
7. Howard, C.M. and Lutterschmidt, D.I. 2015. The effects of melatonin on brain arginine vasotocin: relationship with sex and seasonal differences in melatonin receptor type 1 in green treefrogs (*Hyla cinerea*). *J. Neuroendocrinol.* 27: 670-679.

## STORAGE

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



Try **MEL-1A-R (B-10): sc-390328** or **MEL-1A/B-R (B-8): sc-398788**, our highly recommended monoclonal alternatives to MEL-1A-R (N-20).