

MEL-1A/B-R (H-120): sc-30017

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 β 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

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3. Roka, F., Brydon, L., Waldhoer, M., Strosberg, A.D., Freissmuth, M., Jockers, R. and Nanoff, C. 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., Li, L., Siu, S.W., Xi, S.C., Fong, S.W. and Pang, S.F. 2000. Biological basis and possible physiological implications of melatonin receptor-mediated signaling in the rat epididymis. *Biol. Signals Recept.* 9: 172-187.
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CHROMOSOMAL LOCATION

Genetic locus: MTNR1A (human) mapping to 4q35.2, MTNR1B (human) mapping to 11q14.3; Mtnr1a (mouse) mapping to 8 B1.1, Mtnr1b (mouse) mapping to 9 A2.

SOURCE

MEL-1A/B-R (H-120) is a rabbit polyclonal antibody raised against amino acids 161-280 mapping within an internal region of MEL-1A-R of human origin.

PRODUCT

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

APPLICATIONS

MEL-1A/B-R (H-120) is recommended for detection of MEL-1A-R and MEL-1B-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

MEL-1A/B-R (H-120) is also recommended for detection of MEL-1A-R and MEL-1B-R in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of glycosylated MEL-1A-R: 60 kDa.

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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Leja-Szpak, A., Jaworek, J., Pierzchalski, P. and Reiter, R.J. 2010. Melatonin induces pro-apoptotic signaling pathway in human pancreatic carcinoma cells (PANC-1). *J. Pineal Res.* 49: 248-255.
2. Chen, X., Li, X., Du, Z., Shi, W., Yao, Y., Wang, C., He, K. and Hao, A. 2014. Melatonin promotes the acquisition of neural identity through extracellular-signal-regulated kinases 1/2 activation. *J. Pineal Res.* 57: 168-176.

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.



Try **MEL-1A/B-R (B-8): sc-398788** or **MEL-1A-R (B-10): sc-390328**, our highly recommended monoclonal alternatives to MEL-1A/B-R (H-120).