OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for TA328875

Mtnr1b Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)RKAKATRKLRLRPSD, corresponding to amino acid residues 232-246 of mouse Melatonin Receptor Type 2 . 3rd intracellulal loop.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	melatonin receptor 1B
Database Link:	NP_663758 Entrez Gene 192646 RatEntrez Gene 244701 Mouse

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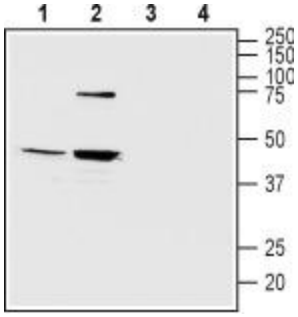
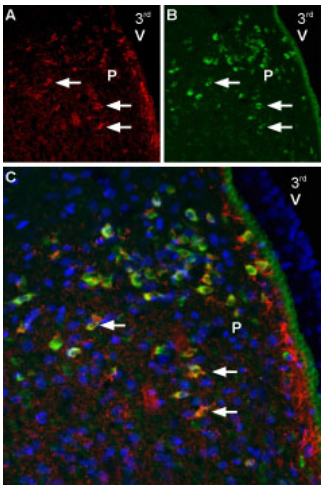
Background: Melatonin (N-acetyl-5-methoxytryptamine) is a product of tryptophan metabolism. It is synthesized in the pineal gland and is secreted to control the circadian rhythm. Melatonin is also synthesized in the gastrointestinal tract, retina, skin and other tissues where it acts in a autocrine or paracrine manner. The role of melatonin in these tissues is independent of its role in the circadian rhythm, where it plays a role in energy metabolism, physiological growth, differentiation and responsiveness in stress stimuli. The pleiotropic effects of melatonin have given rise to various therapeutic possibilities for this molecule. For example; anti-stress, sexual dysfunction, obesity, gallbladder stones. To date, the only therapeutic uses for melatonin remain to treat sleep disorders, depression, migraine and headaches. Melatonin exerts its effects through two G-protein coupled receptors (GPCRs); melatonin receptor type 1 and melatonin receptor type 2 (MT1 and MT2). Like all GPCRs, they have seven transmembrane domains and extracellular N-terminal and cytoplasmic C-terminal tails. The binding of melatonin to either receptor activates Gi, thereby activating PLC, thus increasing intracellular Ca2+ levels. Both receptors structurally bind melatonin in the same manner, although MT2 displays a much higher affinity for the hormone. Just like melatonin levels are detected in many tissues, the expression patterns of the two receptors are also quite broad. For example, MT1 is detected in the brain, retina and kidneys and MT2 is expressed in brain and in the retina. MT1 is involved in sleep regulation and might also have effects on peripheral vasoconstriction. MT2 may play an important physiological role in the retina and might regulate body temperature.

Synonyms: Mel-1B-R; MT2

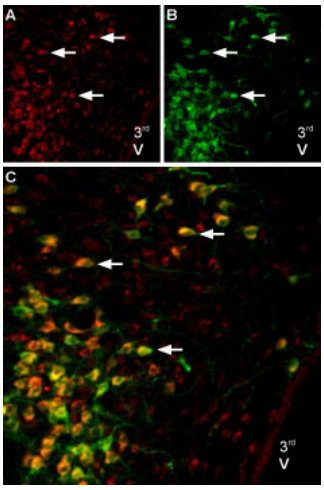
Product images:



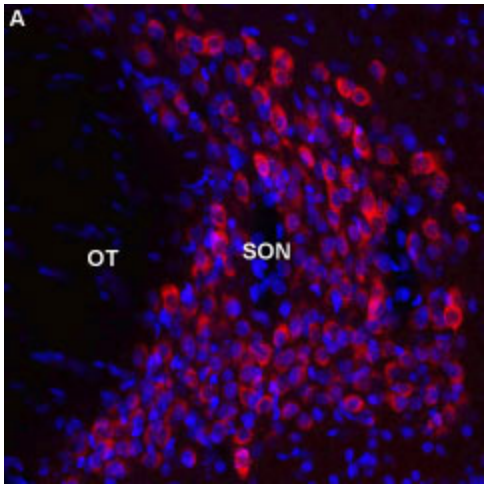
Western blot analysis of mouse (lanes 1 and 3) and rat (lanes 2 and 4) brain lysates: 1, 2. Anti-Melatonin Receptor Type 2 antibody, (1:200). 3, 4. Anti-Melatonin Receptor Type 2 antibody, preincubated with the control peptide antigen.



IHC staining of rat paraventricular nucleus sections using Anti-Melatonin Receptor Type 2 antibody, (1:600) and guinea pig Anti-NaV1.2 antibody, (1:2000). A. Melatonin Receptor Type 2 staining (red) (arrows). B. The same section labeled for NaV1.2 (green). C. Merge of A and B demonstrates partial co-localization of Melatonin Receptor Type 2 and NaV1.2 in the paraventricular nucleus (PVN). For orientation, note location with respect to the third ventricle (3rd V).



IHC staining of perfusion-fixed frozen brain sections using Anti-Melatonin Receptor Type 2 antibody, (1:600) and Anti-Angiotensin II Receptor Type-2 (extracellular)-ATTO-488, (1:100). A. Melatonin Receptor Type 2 staining (red) (arrows). B. The same section labeled for Angiotensin II Receptor Type-2 (green). C. Merge of the two images suggests considerable co-localization in the paraventricular nucleus (arrows). For orientation, note localization with respect to 3rd ventricle (3rd V).



Expression of Melatonin receptor type 2 in rat supraoptic nucleus. Immunohistochemical staining of perfusion-fixed frozen brain sections using Anti-Melatonin Receptor Type 2 antibody, (1:600), (red). Melatonin Receptor Type 2 is expressed discretely in the supraoptic nucleus (SON), adjacent to the optric tract (OT). DAPI is used as the counterstain (blue).