

[Table of Contents](#)[In Press](#)[Article Archive](#)[CJAS \(63\) 2018](#)[CJAS \(62\) 2017](#)[CJAS \(61\) 2016](#)[CJAS \(60\) 2015](#)[CJAS \(59\) 2014](#)[Issue No. 1 \(1-44\)](#)[Issue No. 2 \(45-95\)](#)[Issue No. 3 \(97-145\)](#)[Issue No. 4 \(147-199\)](#)[Issue No. 5 \(201-249\)](#)[Issue No. 6 \(251-295\)](#)[Issue No. 7 \(297-343\)](#)[Issue No. 8 \(345-390\)](#)[Issue No. 9 \(391-443\)](#)[Issue No. 10 \(445-493\)](#)[Issue No. 11 \(495-537\)](#)[Issue No. 12 \(539-578\)](#)[CJAS \(58\) 2013](#)[CJAS \(57\) 2012](#)[CJAS \(56\) 2011](#)[CJAS \(55\) 2010](#)[CJAS \(54\) 2009](#)[CJAS \(53\) 2008](#)[CJAS \(52\) 2007](#)[CJAS \(51\) 2006](#)[CJAS \(50\) 2005](#)[CJAS \(49\) 2004](#)[Editorial Board](#)[Ethical Standards](#)[Reviewers 2017](#)[For Authors](#)[Author Declaration](#)[Copyright Statement](#)[Instruction for Authors](#)[Submission Templates](#)[Fees](#)[New Submissions/Login](#)[Subscription](#)**Melatonin receptor (MTNR1A and MTNR2B) expression during the breeding season in the yak (*Bos grunniens*)**

S.-D. Huo, R.-J. Long

<https://doi.org/10.17221/7294-CJAS>Citation: Huo S.-., Long R.-. (2014): Melatonin receptor (MTNR1A and MTNR2B) expression during the breeding season in the yak (*Bos grunniens*). Czech J. Anim. Sci., 59: 140-145.[download PDF](#)

Melatonin plays key roles in a wide range of mammalian body functions, which are mediated by the melatonin-specific cell surface receptor (MTNR1A and MTNR1B). To better understand the role of MTNR in the yak (*Bos grunniens*), we determined the melatonin receptor mRNA expression level. The analysis showed that the MTNR mRNA expression level was higher in the pineal gland tissue than in the hypothalamus, pituitary gland, and ovary ( $P < 0.01$ ) during the breeding season. Immunofluorescence analyses showed that yak MTNR was located in the pinealocyte, synaptic ribbon, and synaptic spherules of the pineal gland and that melatonin interacts via nerve fibres. In the hypothalamus, MTNR was located in the magnocellular neurons and parvocellular neurons. MTNR was localized in acidophilic cells and basophilic cells in the pituitary gland. In the ovary, MTNR was present in the ovarian follicle, corpus luteum, and Leydig cells.

**Keywords:**

domestic yak; immunofluorescence; MLTR; real-time PCR

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IF (Web of Science)

2017: 0.955

5-Year Impact Factor: 1.01  
Q3 (33/60) – Agriculture, [br/>Animal Science

SJR (SCOPUS)

2017: 0.443 – Q2 (Animal [br/&gt;and Zoology)

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Ing. Gabriela Vladková  
Executive Editor (Editorial  
publication)  
e-mail: [cjas@cazv.cz](mailto:cjas@cazv.cz)

Ing. Kateřina Kheilová  
Executive Editor (submissions;  
editorial system)  
e-mail: [cjas@af.czu.cz](mailto:cjas@af.czu.cz)

[Address](#)

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