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ISOLATION AND CHARACTERIZATION OF A PROLACTIN-LIKE PEPTIDE FROM OVINE PINEAL GLANDS. I. Ebels*¹, H.P.J.M. Noteborn¹, P. van Balen², A.A. van der Gugten², and C.A. Salemink¹. 1. Department of Organic Chemistry, State University, Utrecht, The Netherlands. 2. Antoni van Leeuwenhoekhuis, Cancer Institute, Amsterdam, The Netherlands

In mammals, it is generally accepted that the pineal gland mainly secretes antigonadotropic substances. However, the pineal may also contain gonadotropic stimulatory substances which are to date still unknown¹). This study describes the isolation and partial characterization of an immunoreactive prolactin-like peptide (IMR-Prl) from ovine pineals. The majority of pineal IMR-Prl behaved identically to that of hypophysial Prl in high-performance liquid chromatography and polyacrylamide gel-electrophoresis. The isolated ovine pineal "Prl" can displace ¹²⁵I-ovine Prl in an assay using pregnant rat liver Prl-receptors. The present data suggest that probably, native hypophysial Prl occurs in the ovine pineal, which may be responsible for some stimulatory effects in bioassays.

1). Chang, N., Ebels, I. and Benson, B., J. Neural Transm. 46, 139-151 (1979).

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DOES MELATONIN PLAY A ROLE IN SEXUAL DEVELOPMENT IN THE MALE RAT? A.I. Esquifino*, C.M. Craft, T.H. Champney, M.K. Vaughan, and R.J. Reiter, Department of Cellular and Structural Biology, The University of Texas Health Science Center at San Antonio, San Antonio, Texas 78284.

Male rats of different ages (25, 40, 55 or 70 days) were used to assess if melatonin plays a role in sexual development. Rats were kept under controlled light/dark cycles (14:10, lights on at 06.00 h) and killed throughout a 24 h period, at 08.00, 12.00, 24.00, 02.00 and 04.00 h. During the light period NAT was typically low and rose greatly at night, reaching the highest values around 02.00 h. The age of the animals had no statistically significant effect on the levels of NAT activity during day or night. Conversely, only 25 day old rats showed a significant nocturnal rise in HIOMT activity ($p < 0.05$). There was a gradual reduction in melatonin content of the pineal gland as the animals aged. All aged groups presented a marked increase in melatonin content during the dark period; this increase was less evident as the rats became older. Testosterone levels were low both during the day and night in 25 and 40 day old rats. Both 55 and 70 day old males showed a clear bimodal rhythm in testosterone with highest values being found at 12.00 and at 24.00 h. Also, a marked 24 h rhythm in β -receptor activity was shown in all groups of rats. These data suggest that there is a drop in melatonin levels as rats undergo sexual maturation and this change could be permissive to testosterone levels, but could be related to modification of β -receptor. Other explanations can not be excluded. Supported by NSF grant # PCM 8305706. A.I.E. was supported by FISS Fdn. (Madrid, Spain).