

THE PRESENCE OF NEUROPEPTIDES IN THE MAMMALIAN PINEAL AND SUBCOMMISSURAL ORGAN

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According to the literature the pineal and the subcommissural organ (SCO) would contain a large number of peptidergic compounds: neurohypophysial hormones, hypothalamic releasing factors, and a number of still unidentified peptides.

In our radioimmunoassay system no evidence was obtained for the presence of arginine-vasotocin in the pineal and SCO of rat and mouse. In the rabbit SCO an apparent value of 46.7 ± 6.4 pg/organ was found, but this result was due to cross-reaction with arginine-vasopressin (AVP) which is present in a very high concentration (between 11.3 and 66 ng/organ). AVP was also found in the SCO and the pineal of the rat. An immunocytochemical study has demonstrated that this observation was due to the presence of AVP containing fibres in the pineal stalk, between the cells of the SCO and especially in the brain tissue immediately adjacent to the SCO. Oxytocin was also radioimmunologically identified in rabbit and rat SCO.

Using an antibody against α -MSH, an intense staining was observed in the rat pineal, possibly in the "glial" cells. The presence of this α -MSH-like compound in the rat pineal was confirmed by radioimmunoassay.