

# Immunohistochemical localization of opioid receptors in bovine pineal gland

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The localization of mu- and delta- opioid receptors were investigated in the bovine pineal gland, by using antibodies raised against mu- and delta-opioid receptors. Both mu- and delta-opioid receptor immunoreactivities were demonstrated predominantly in pinealocytes. In addition, some mu-opioid receptor immunoreactive (IR) neuronal-like cells and nerve fibers were also found. A large number of delta-opioid receptor immunoreactive nerve fibers were observed at the periphery of the bovine pineal gland, penetrating to the parenchyma of the gland.

Furthermore delta opioid receptor-IR neuronal-like cells were found at the periphery of the gland, sending their processes deep into the gland. The present study, therefore, indicated that an opioidergic innervation might control melatonin synthesis by acting at opioid-receptors.

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