

# Research in Neuroscience :

## The study of the innervation of the organ

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The study of the innervation of the organ system is the one interested field in Neuroscience Research. The well understanding in the neural control of each organ can be applied to the further pharmacological research. Not only classical neurotransmitters but also several neuromoderators and neuropeptides are found to concert in controlling the function of each organ. Up to now many modern techniques in anatomy, biochemistry, pharmacology and molecular biology have been used to prove the criteria of the innervation : i.e., the existence of each neurotransmitter, the existence of the receptors for that neurotransmitters and the output function from the reaction between the neurotransmitter and the receptors. During ten years of my research in the innervation of

mammalian pineal gland, several techniques have been performed, i.e., radioligand receptors binding, autoradiography receptors binding, radioenzyme assay, immunohisto-chemistry, RT-PCR, organ explant in culture, cell culture, radioimmunoassay, and in situ hybridization. The study of the cholinergic innervation in the mammalian pineal gland will be mentioned in the symposium as the example in using various techniques in this research field.

### Reference

- Phansuwan-Pujito P, M?ller M., Govitrapong P. Cholinergic innervation and function in the mammalian pineal gland. *Microscopy Research and Technique* 1999;46:281-295.

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