47. Studies on Homocarnosine as a Inhibitory Substance in Cerebral Cortex

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Homocarnosine is a dipeptide which was isolated from beef brain in amounts of about 0.5 to 1 mg per 100 g of tissue by Pisano et al. (1960), and chemical structure of it was identified as γ-aminobutyryl-L-histidine by them. Recently it was found that homocarnosine is an inhibitory substance of cerebral cortex by us, i.e. the typical convulsive seizure of ep-mouse was completely inhibited by means of intra-thecally administration of homocarnosine and simultaneously spike waves observed in EEG findings of ep-mouse were vanished. The other hand, convulsion due to sodium citrate was inhibited too by it. Generally, homocarnosine may be an inhibitory substance in limbic system, as suggested by Dr. Hayashi.

Most recently synthesis of 14C-labelled homocarnosine from 14C-γ-aminobutyric acid was done successively by us, and we are planning to research its metabolism.

48. Treatment of Epileptic Patients by the Candidate Substances of the Inhibitory Transmitter in the General Nervous System

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Hayashi has discussed that γ-amino-β-hydroxybutyric acid (GABOB) is a