

Title	Detection of endogenous acetylcholine release from the rat basal forebrain slices
Sub Title	
Author	鈴木, 岳之(Suzuki, Takeshi) 久田, 操(Hisada, Misao) 宮川, 知子(Miyagawa, Tomoko) 名越, 明子(Nagoshi, Akiko) 藤本, 和子(Fujimoto, Kazuko) 大畑, 尚代(Ohata, Hisayo) 川島, 紘一郎(Kawashima, Koichiro)
Publisher	共立薬科大学
Publication year	1987
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.32 (1987.) ,p.129- 129
JaLC DOI	
Abstract	
Notes	学会講演要旨
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000032-0141

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the Keio Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

Detection of Endogenous Acetylcholine Release from the Rat Basal Forebrain Slices

Takeshi SUZUKI, Misao HISADA, Tomoko MIYAGAWA, Akiko NAGOSHI,
Kazuko FUJIMOTO, Hisayo OOHATA and Koichiro KAWASHIMA

鈴木岳之, 久田 操, 宮川知子, 名越明子, 藤本和子, 大畑尚代, 川島紘一郎

〔第60回 日本薬理学会総会（昭和62年4月1日, 千葉市）で発表〕

We have developed a specific highly sensitive radioimmunoassay for acetylcholine (ACh). In the present study, an attempt was made to determine endogenous ACh released from the rat basal forebrain slices. The brain slices (40—60 mg protein) were placed in the perfusion chamber (0.3 ml) and perfused with artificial cerebrospinal fluid (37°C, 0.4 ml/min). Fractions were collected every 3 min and determined for ACh contents. In the normal condition (without cholinesterase (ChE) inhibitor), no detectable amount of ACh was present in the superfusates. Thus, a medium containing methanesulfonyl-fluoride (10 μ M) was perfused to inhibit ChE. Under these conditions, spontaneous release of ACh was detected (0.56 ± 0.04 pg/mg protein/min). Atropine-sulfate (up to 10 μ M) and pirenzepine-hydrochloride (1 μ M) evoked an increase in ACh release. Thus, M_1 -muscarinic autoreceptor seems to be activated by spontaneously released ACh in the presence of ChE inhibitor.

Japan J. Pharmacol., 43 (Suppl.) :133P. 1987.

Determination of Plasma Acetylcholine Concentrations in Rabbits and Humans

Hisayo OOHATA, Kazuko FUJIMOTO, Takeshi SUZUKI and Koichiro KAWASHIMA

大畑尚代, 藤本和子, 鈴木岳之, 川島紘一郎

〔第60回 日本薬理学会総会（昭和62年4月1日, 千葉市）で発表〕

It is generally considered that acetylcholine (ACh) is rapidly hydrolyzed by acetylcholinesterase (AChE), and no detectable amount is present in the blood. By using a specific and sensitive radioimmunoassay (RIA) for ACh, the present study was conducted to confirm whether there is any measurable amount of ACh in plasma. Venous blood sample was collected into a cooled vacutainer containing EDTA, paraoxon and acetic