## THE JOURNAL OF

# NEUROSCIENCE

**APRIL 1984** 

**VOLUME 4 NUMBER 4** 

### THE OFFICIAL JOURNAL OF THE SOCIETY FOR NEUROSCIENCE

#### CONTENTS

CARLSON, D. E., A. DORNHORST, J. W. MARAN, AND D. S. GANN: Hypothalamic Neurons Responding to Hemodynamic Input and to Stimulation in the Pons May Influence Adrenocorticotropin Release	897
Kass, L., and R. B. Barlow, Jr.: Efferent Neurotransmission of Circadian Rhythms in <i>Limulus</i> Lateral Eye. I. Octopamine-induced Increases in Retinal Sensitivity	908
BRINKMAN, C.: Supplementary Motor Area of the Monkey's Cerebral Cortex: Short- and Long-term Deficits after Unilateral Ablation and the Effects of Subsequent Callosal Section	918
Schneider, J. S., M. S. Levine, C. D. Hull, and N. A. Buchwald: Effects of Amphetamine on Intracellular Responses of Caudate Neurons in the Cat	930
McLarnon, J. G., and D. M. J. Quastel: Thermodynamic Parameters of End-Plate Channel Blockade	939
ELLIS, S., K. AXT, AND A. N. EPSTEIN: The Arousal of Ingestive Behaviors by Chemical Injection into the Brain of the Suckling Rat	945
LIOTTA, A. S., J. P. ADVIS, J. E. KRAUSE, J. F. MCKELVY, AND D. T. KRIEGER: Demonstration of In Vivo Synthesis of Pro-Opiomelanocortin-, $\beta$ -Endorphin-, and $\alpha$ -Melanotropin-like Species in the Adult Rat Brain	956
IMPERATO, A., AND G. DI CHIARA: Trans-striatal Dialysis Coupled to Reverse Phase High Performance Liquid Chromatography with Electrochemical Detection: A New Method for the Study of the <i>In Vivo</i> Release of Endogenous Dopamine and Metabolites	966
BJÖRKLUND, H., D. DAHL, L. OLSON, AND Å. SEIGER: Glial Fibrillary Acidic Protein-like Immunoreactivity in the Iris: Development, Distribution, and Reactive Changes following Transplantation	978
TAGHERT, P. H., AND C. S. GOODMAN: Cell Determination and Differentiation of Identified Serotonin- immunoreactive Neurons in the Grasshopper Embryo	989
KNUDSEN, E. I., S. D. ESTERLY, AND P. F. KNUDSEN: Monaural Occlusion Alters Sound Localization during a Sensitive Period in the Barn Owl	1001
KNUDSEN, E. I., P. F. KNUDSEN, AND S. D. ESTERLY: A Critical Period for the Recovery of Sound Localization Accuracy following Monaural Occlusion in the Barn Owl	1012
VAN DIJK, A., J. G. RICHARDS, A. TRZECIAK, D. GILLESSEN, AND H. MOHLER: Cholecystokinin Receptors: Biochemical Demonstration and Autoradiographical Localization in Rat Brain and Pancreas Using [3H]Cholecystokinin <sub>8</sub> as Radioligand	1021

Contents continue on next page

Cover picture: Fluorescent labeling (with a monoclonal antibody against  $\beta$ -tubulin prepared by Dr. Illana Gozes) of a group of neurons from the rat dentate gyrus maintained in dispersed culture for 1 week. The neurons are lying on a bed of astrocytes.  $\times$  800. Micrograph kindly provided by Dr. Barbara Boss.

CARROW, G. M., R. L. CALABRESE, AND C. M. WILLIAMS: Architecture and Physiology of Insect Cerebral Neurosecretory Cells	1034
STUERMER, C. A. O., AND S. S. EASTER, JR.: Rules of Order in the Retinal Fascicles of Goldfish	1045
EASTER, S. S., JR., AND C. A. O. STUERMER: An Evaluation of the Hypothesis of Shifting Terminals in Goldfish Optic Tectum	1052
HOLTMAN, J. R., JR., W. P. NORMAN, L. SKIRBOLL, K. L. DRETCHEN, C. CUELLO, T. J. VISSER, T. HÖKFELT, AND R. A. GILLIS: Evidence for 5-Hydroxytryptamine, Substance P, and Thyrotropin-Releasing Hormone in Neurons Innervating the Phrenic Motor Nucleus	1064
ZOLA-MORGAN, S., AND L. R. SQUIRE: Preserved Learning in Monkeys with Medial Temporal Lesions: Sparing of Motor and Cognitive Skills	1072
MATHEKE, M. L., S. J. FLIESLER, S. F. BASINGER, AND E. HOLTZMAN: The Effects of Monensin on Transport of Membrane Components in the Frog Retinal Photoreceptor. I. Light Microscopic Autoradiography and Biochemical Analysis	1086
MATHEKE, M. L., AND E. HOLTZMAN: The Effects of Monensin and of Puromycin on Transport of Membrane Components in the Frog Retinal Photoreceptor. II. Electron Microscopic Autoradiography of Proteins and Glycerolipids	1093
McGinty, J. F., D. van der Kooy, and F. E. Bloom: The Distribution and Morphology of Opioid Peptide Immunoreactive Neurons in the Cerebral Cortex of Rats	1104
SAWCHENKO, P. E., L. W. SWANSON, AND W. W. VALE: Corticotropin-Releasing Factor: Co-Expression within Distinct Subsets of Oxytocin-, Vasopressin-, and Neurotensin-immunoreactive Neurons in the Hypothalamus of the Male Rat	1118
HOLT, C. E.: Does Timing of Axon Outgrowth Influence Initial Retinotectal Topography in Xenopus?	1130
HARRIS, W. A.: Axonal Pathfinding in the Absence of Normal Pathways and Impulse Activity	1153
HATTEN, M. E., R. K. H. LIEM, AND C. A. MASON: Defects in Specific Associations between Astroglia and Neurons Occur in Microcultures of Weaver Mouse Cerebellar Cells	1163

#### INFORMATION FOR SUBSCRIBERS

THE JOURNAL OF NEUROSCIENCE, the official journal of the Society for Neuroscience, is published monthly, one volume a year, beginning January.

Annual Subscription Rates. U.S.A. and possessions: Nonmember, \$100.00; Institutional, \$250.00; Student, \$45.00; single copy, \$14.00. Foreign: Nonmember, \$125.00; Institutional, \$275.00; single copy, \$17.00. Institutional (multiple-reader) rate applies to libraries, schools, hospitals, clinics, group practices, and federal, commercial, and private institutions and organizations.

Second class postage paid at Washington, DC, and additional mailing offices.

Change of Address. The Subscription Department, Williams & Wilkins, 428 E. Preston St., Baltimore, MD 21202, must be notified 60 days in advance. Journals undeliverable because of incorrect addresses will be destroyed. Duplicates can be obtained (if available) from Williams & Wilkins at the regular price of single issues.

Reprints of individual articles are available only from authors.

Microfilm Availability. Inquire of Williams & Wilkins.

Japanese Yen price is available from our sole agent: U.S.-Asiatic Co. Ltd., 13-12 Shimbashi 1-Chome, Minato-Ku, Tokyo, Japan, telephone 03-502-6471.

Bound Volume No. 4 will be available to all subscribers in 1985. This volume is hard bound in black buckram with the journal name, volume number, and year of issue stamped in gold on the spine. The price is \$40.00 for the volume, plus an additional \$5.00 for orders outside the U. S., with a \$2.00 discount given for advance payment. Orders must be received by the publisher before December 1, 1984.

Williams & Wilkins Co., 428 E. Preston Street, Baltimore, MD 21202.