

# THE JOURNAL OF NEUROSCIENCE

FEBRUARY 1984

VOLUME 4 NUMBER 2

THE OFFICIAL JOURNAL OF THE SOCIETY FOR NEUROSCIENCE

## CONTENTS

- HSIAO, K., G. M. SACHS, AND G.E. SCHNEIDER: A Minute Fraction of Syrian Golden Hamster Retinal Ganglion Cells Project Bilaterally 359
- HSIAO, K.: Bilateral Branching Contributes Minimally to the Enhanced Ipsilateral Projection in Monocular Syrian Golden Hamsters 368
- HORTON, J. C., AND H. SHERK: Receptive Field Properties in the Cat's Lateral Geniculate Nucleus in the Absence of On-Center Retinal Input 374
- SHERK, H., AND J. C. HORTON: Receptive Field Properties in the Cat's Area 17 in the Absence of On-Center Geniculate Input 381
- CACERES, A., L. I. BINDER, M. R. PAYNE, P. BENDER, L. REBHUN, AND O. STEWARD: Differential Subcellular Localization of Tubulin and the Microtubule-associated Protein MAP2 in Brain Tissue as Revealed by Immunocytochemistry with Monoclonal Hybridoma Antibodies 394
- BAKHIT, C., L. KODA, R. BENOIT, J. H. MORRISON, AND F. E. BLOOM: Evidence for Selective Release of Somatostatin-14 and Somatostatin-28(1-12) from Rat Hypothalamus 411
- JONES, S. W., P. R. ADAMS, M. J. BROWNSTEIN, AND J. E. RIVIER: Teleost Luteinizing Hormone-Releasing Hormone: Action on Bullfrog Sympathetic Ganglia Is Consistent with Role as Neurotransmitter 420
- FITZGERALD, M., C. J. WOOLF, S. J. GIBSON, AND P. S. MALLABURN: Alterations in the Structure, Function, and Chemistry of C Fibers Following Local Application of Vinblastine to the Sciatic Nerve of the Rat 430
- REH, T. A., AND M. CONSTANTINE-PATON: Retinal Ganglion Cell Terminals Change Their Projection Sites during Larval Development of *Rana pipiens* 442
- TAL, M., AND S. ROTSHENKER: Sprouting and Synapse Formation Produced by Carbocaine 458
- SANES, J. R., D. H. FELDMAN, J. M. CHENEY, AND J. C. LAWRENCE, JR.: Brain Extract Induces Synaptic Characteristics in the Basal Lamina of Cultured Myotubes 464
- ROSS, C. A., D. A. RUGGIERO, D. H. PARK, T. H. JOH, A. F. SVED, AND J. FERNANDEZ-PARDAL: Tonic Vasomotor Control by the Rostral Ventrolateral Medulla: Effect of Electrical or Chemical Stimulation of the Area Containing C1 Adrenaline Neurons on Arterial Pressure, Heart Rate, and Plasma Catecholamines and Vasopressin 474
- WALTER, M. F., AND J. A. KIGER, JR.: The *dunce* Gene of *Drosophila*: Roles of Ca<sup>2+</sup> and Calmodulin in Adenosine 3':5'-Cyclic Monophosphate in Specific Phosphodiesterase Activity 495
- LABARCA, P., J. LINDSTROM, AND M. MONTAL: The Acetylcholine Receptor Channel from *Torpedo californica* Has Two Open States 502
- BASBAUM, C. B., M. A. GRILLO, AND J. H. WIDDICOMBE: Muscarinic Receptors: Evidence for a Nonuniform Distribution in Tracheal Smooth Muscle and Exocrine Glands 508

*Contents continue on next page*

*Cover Picture:* Newly generated unmyelinated axons in the goldfish optic nerve. The large profile on the left marked with an *asterisk* is a growth cone located just beneath the basal lamina ( $\times 50,000$ ). Electron micrograph kindly provided by S. S. Easter, Jr., B. Bratton, and S. S. Scherer.

Instructions to Authors appear in the January issue only. Copies of the Instructions can be obtained by writing the Society for Neuroscience, 9650 Rockville Pike, Bethesda, MD 20814.

*Contents continued*

- O'SHEA, M., J. WITTEN, AND M. SCHAFFER: Isolation and Characterization of Two Myoactive Neuropeptides: Further Evidence of an Invertebrate Peptide Family 521
- THOMAS, J. B., AND R. J. WYMAN: Mutations Altering Synaptic Connectivity Between Identified Neurons in *Drosophila* 530
- SCHELL, G. R., AND P. L. STRICK: The Origin of Thalamic Inputs to the Arcuate Premotor and Supplementary Motor Areas 539
- GILBERT, P., H. KETTENMANN, AND M. SCHACHNER:  $\gamma$ -Aminobutyric Acid Directly Depolarizes Cultured Oligodendrocytes 561
- MARKSTEIN, R., AND T. HÖKFELT: Effect of Cholecystokinin-Octapeptide on Dopamine Released from Slices of Cat Caudate Nucleus 570
- MAXWELL, G. D., P. D. SIETZ, AND P. H. CHENARD: Development of Somatostatin-like Immunoreactivity in Embryonic Sympathetic Ganglia 576
- MILLER, R. H., AND M. C. RAFF: Fibrous and Protoplasmic Astrocytes Are Biochemically and Developmentally Distinct 585
- ANHOLT, R. R. H., K. M. M. MURPHY, G. E. MACK, AND S. H. SNYDER: Peripheral-type Benzodiazepine Receptors in the Central Nervous System: Localization to Olfactory Nerves 593
- SEGAL, M., M. A. ROGAWSKI, AND J. L. BARKER: A Transient Potassium Conductance Regulates the Excitability of Cultured Hippocampal and Spinal Neurons 604

## 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. 3 will be available to all subscribers in 1984. 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, 1983.

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