

THE JOURNAL OF NEUROSCIENCE

DECEMBER 1984

VOLUME 4 NUMBER 12

THE OFFICIAL JOURNAL OF THE SOCIETY FOR NEUROSCIENCE

CONTENTS

- BOSS, V. C., AND J. T. SCHMIDT: Activity and the Formation of Ocular Dominance Patches in Dually Innervated Tectum of Goldfish 2891
- WILLIAMS, M., AND J. L. ROBINSON: Binding of the Nicotinic Cholinergic Antagonist, Dihydro- β -erythroidine, to Rat Brain Tissue 2906
- ARNSTEN, A. F. T., H. J. NEVILLE, S. A. HILLYARD, D. S. JANOWSKY, AND D. S. SEGAL: Naloxone Increases Electrophysiological Measures of Selective Information Processing in Humans 2912
- MCGUIRE, B. A., J. K. STEVENS, AND P. STERLING: Microcircuitry of Bipolar Cells in Cat Retina 2920
- PATEL, N. B., AND M-M. POO: Perturbation of the Direction of Neurite Growth by Pulsed and Focal Electric Fields 2939
- SCHNITZER, J., AND A. C. RUSOFF: Horizontal Cells of the Mouse Retina Contain Glutamic Acid Decarboxylase-like Immunoreactivity during Early Developmental Stages 2948
- O'DONOHUE, T. L., V. J. MASSARI, C. J. PAZOLES, B. M. CHRONWALL, C. W. SHULTS, AND R. QUIRION: A Role for Bombesin in Sensory Processing in the Spinal Cord 2956
- GOLD, M. R., AND D. H. COHEN: The Discharge Characteristics of Vagal Cardiac Neurons during Classically Conditioned Heart Rate Change 2963
- JENSEN, R. J., AND N. W. DAW: Effects of Dopamine Antagonists on Receptive Fields of Brisk Cells and Directionally Selective Cells in the Rabbit Retina 2972
- YIP, H. K., K. M. RICH, P. A. LAMPE, AND E. M. JOHNSON, JR.: The Effects of Nerve Growth Factor and Its Antiserum on the Postnatal Development and Survival after Injury of Sensory Neurons in Rat Dorsal Root Ganglia 2986
- WILSON, S. P., C. D. UNSWORTH, AND O. H. VIVEROS: Regulation of Opioid Peptide Synthesis and Processing in Adrenal Chromaffin Cells by Catecholamines and Cyclic Adenosine 3':5'-Monophosphate 2993
- TSUI, H-C. T., K. L. LANKFORD, H. RIS, AND W. L. KLEIN: Novel Organization of Microtubules in Cultured Central Nervous System Neurons: Formation of Hairpin Loops at Ends of Maturing Neurites 3002
- LEWIS, D. V., G. B. EVANS, AND W. A. WILSON: Dopamine Reduces Slow Outward Current and Calcium Influx in Burst-firing Neuron R15 of *Aplysia* 3014
- MCGUIRE, B. A., J. -P. HORNUNG, C. D. GILBERT, AND T. N. WIESEL: Patterns of Synaptic Input to Layer 4 of Cat Striate Cortex 3021
- COBBET, P., AND G. I. HATTON: Dye Coupling in Hypothalamic Slices: Dependence on *In Vivo* Hydration State and Osmolality of Incubation Medium 3034

Contents continued on next page

Cover picture: Immunofluorescent staining of a cryostat section of a 6-day-old rat olfactory epithelium, with a monoclonal antibody which recognizes a cell surface glycoprotein on olfactory receptor neurons. Photomicrograph provided by Drs. W. K. Allen and R. A. Akeson.

Instructions to Authors appear in the January issue only. Copies of the Instructions can be obtained by writing the Society for Neuroscience, 11 Dupont Circle, N.W., Washington, DC 20036, Suite 130.

Contents Continued

| | |
|--|------|
| HEUMANN, R., M. SCHWAB, R. MERKL, AND H. THOENEN: Nerve Growth Factor-mediated Induction of Choline Acetyltransferase in PC12 Cells: Evaluation of the Site of Action of Nerve Growth Factor and the Involvement of Lysosomal Degradation Products of Nerve Growth Factor | 3039 |
| ARGIRO, V., M. B. BUNGE, AND M. I. JOHNSON: Correlation between Growth Cone Form and Movement and Their Dependence on Neuronal Age | 3051 |
| HOLMES, E. J., AND C. G. GROSS: Effects of Inferior Temporal Lesions on Discrimination of Stimuli Differing in Orientation | 3063 |
| SPIRA, A. W., Y. SHIMIZU, AND O. P. RORSTAD: Localization, Chromatographic Characterization, and Development of Somatostatin-like Immunoreactivity in the Guinea Pig Retina | 3069 |
| STANTON, P. K., AND J. M. SARVEY: Blockade of Long-term Potentiation in Rat Hippocampal CA1 Region by Inhibitors of Protein Synthesis | 3080 |
| ZAGON, I. S., P. J. MCLAUGHLIN, AND S. R. GOODMAN: Localization of Spectrin in Mammalian Brain | 3089 |
| GIBSON, S. J., J. M. POLAK, S. R. BLOOM, I. M. SABATE, P. M. MULDERRY, M. A. GHATEI, G. P. MCGREGOR, J. F. B. MORRISON, J. S. KELLY, R. M. EVANS, AND M. G. ROSENFELD: Calcitonin Gene-related Peptide Immunoreactivity in the Spinal Cord of Man and of Eight Other Species | 3101 |
| FREDERICK, J. M., J. G. HOLLYFIELD, AND W. J. STRITTMATTER: Inhibitors of Metalloendoprotease Activity Prevent K ⁺ -stimulated Neurotransmitter Release from the Retina of <i>Xenopus laevis</i> | 3112 |
| GONZALES, R. A., AND F. T. CREWS: Characterization of Cholinergic Stimulation of Phosphoinositide Hydrolysis in Rat Brain Slices | 3120 |
| MASSA, P. T., S. SZUCHET, AND E. MUGNAINI: Cell-Cell Interactions of Isolated and Cultured Oligodendrocytes: Formation of Linear Occluding Junctions and Expression of Peculiar Intramembrane Particles | 3128 |
| HENDERSON, L. P., M. A. SMITH, AND N. C. SPITZER: The Absence of Calcium Blocks Impulse-evoked Release of Acetylcholine But Not <i>De Novo</i> Formation of Functional Neuromuscular Synaptic Contacts in Culture | 3140 |
| Acknowledgment | 3152 |
| Author Index | 3154 |
| Subject Index | 3157 |
| Volume Contents | i |