

# The Journal of Neuroscience

The Official Journal of  
the Society for Neuroscience

November 1992  
Volume 12 Number 11

---

- 4133 **Feature Article:** Sexual Dimorphism in the Vertebrate Nervous System  
*S.M. Breedlove*
- 4143 Association and Release of the Amyloid Protein Precursor of Alzheimer's Disease from Chick Brain Extracellular Matrix  
*D.H. Small, V. Nurcombe, R. Moir, S. Michaelson, D. Monard, K. Beyreuther, and C.L. Masters*
- 4151 The Distribution of Thirteen GABA<sub>A</sub> Receptor Subunit mRNAs in the Rat Brain. III. Embryonic and Postnatal Development  
*D.J. Laurie, W. Wisden, and P.H. Seeburg*
- 4173 Alteration of Long-lasting Structural and Functional Effects of Kainic Acid in the Hippocampus by Brief Treatment with Phenobarbital  
*T. Sutula, J. Cavazos, and G. Golarai*
- 4188 Excitatory Amino Acid-mediated Responses and Synaptic Potentials in Medial Pontine Reticular Formation Neurons of the Rat *in vitro*  
*D.R. Stevens, R.W. McCarley, and R.W. Greene*
- 4195 Fibroblast Growth Factor Differentially Modulates the Neurotransmitter Phenotype of Cultured Sympathetic Neurons  
*A. Zurn*
- 4202 Calcium Concentration Dynamics Produced by Synaptic Activation of CA1 Hippocampal Pyramidal Cells  
*W.G. Regehr and D.W. Tank*
- 4224 Long-Term Synaptic Depression in the Striatum: Physiological and Pharmacological Characterization  
*P. Calabresi, R. Maj, A. Pisani, N.B. Mercuri, and G. Bernardi*
- 4234 Energy Requirements of Glutamatergic Pathways in Rabbit Retina  
*A. Ames III and Y.-Y. Li*
- 4243 Light-evoked Expansion of Subretinal Space Volume in the Retina of the Frog  
*B. Huang and C.J. Karwoski*
- 4253 Pharmacological and Immunocytochemical Characterization of Metabotropic Glutamate Receptors in Cultured Purkinje Cells  
*M. Yuzaki and K. Mikoshiba*
- 4264 Identified Postnatal Mesolimbic Dopamine Neurons in Culture: Morphology and Electrophysiology  
*S. Rayport, D. Sulzer, W.-X. Shi, S. Sawasdikosol, J. Monaco, D. Batson, and G. Rajendran*

- 4281 Influence of Mesostriatal Afferents on the Development and Transmitter Regulation of Intrastratial Grafts Derived from Embryonic Striatal Primordia  
*F.-C. Liu, S.B. Dunnett, and A.M. Graybiel*
- 4298 The Regional Vulnerability to Hypoglycemia-induced Neurotoxicity in Organotypic Hippocampal Culture: Protection by Early Tetrodotoxin or Delayed MK-801  
*R.C. Tasker, J.T. Coyle, and J.J. Vornov*
- 4309 Temporal and Harmonic Combination-Sensitive Neurons in the Zebra Finch's HVC  
*D. Margoliash and E.S. Fortune*
- 4327 Posttetanic Potentiation at the Crayfish Neuromuscular Junction Is Dependent on Both Intracellular Calcium and Sodium Ion Accumulation  
*R.M. Mulkey and R.S. Zucker*
- 4337 Cell-Specific Expression of High Levels of Human S100 $\beta$  in Transgenic Mouse Brain Is Dependent on Gene Dosage  
*W.C. Friend, S. Clapoff, C. Landry, L.E. Becker, D. O'Hanlon, R.J. Allore, I.R. Brown, A. Marks, J. Roder, and R.J. Dunn*
- 4347 Pharmacological Characterization of Calcium Currents and Synaptic Transmissions between Thalamic Neurons *in vitro*  
*F.W. Pfrieger, N.S. Veselovsky, K. Gottmann, and H.D. Lux*
- 4358 Inhibition of Calcium Channels in Rat CA3 Pyramidal Neurons by a Metabotropic Glutamate Receptor  
*K.J. Swartz and B.P. Bean*
- 4372 Increases in Extracellular Dopamine in the Nucleus Accumbens by Cocaine Are Inversely Related to Basal Levels: Effects of Acute and Repeated Administration  
*F. Weiss, M.P. Paulus, M.T. Lorang, and G.F. Koob*
- 4381 Simulated Motion Enhances Neuronal Selectivity for a Sound Localization Cue in Background Noise  
*T.T. Takahashi and C.H. Keller*
- 4391 Brain-derived Neurotrophic Factor Administration Protects Basal Forebrain Cholinergic but Not Nigral Dopaminergic Neurons from Degenerative Changes after Axotomy in the Adult Rat Brain  
*B. Knüsel, K.D. Beck, J.W. Winslow, A. Rosenthal, L.E. Burton, H.R. Widmer, K. Nikolics, and F. Hefti*
- 4403 Disruption of Classical Eyelid Conditioning after Cerebellar Lesions: Damage to a Memory Trace System or a Simple Performance Deficit?  
*J.E. Steinmetz, D.G. Lavond, D. Ivkovich, C.G. Logan, and R.F. Thompson*
- 4427 Open-Channel Block of *N*-Methyl-D-Aspartate (NMDA) Responses by Memantine: Therapeutic Advantage against NMDA Receptor-mediated Neurotoxicity  
*H.-S.V. Chen, J.W. Pellegrini, S.K. Aggarwal, S.Z. Lei, S. Warach, F.E. Jensen, and S.A. Lipton*
- 4437 Promoter Organization and Activity of Human Monoamine Oxidase (MAO) A and B Genes  
*Q.-S. Zhu, J. Grimsby, K. Chen, and J.C. Shih*

- 4447 Hormonal Regulation of Motor Unit Size and Synaptic Strength during Synapse Elimination in the Rat Levator Ani Muscle  
*C.L. Jordan, P.A. Pawson, A.P. Arnold, and A.D. Grinnell*
- 4460 5' Flanking Sequences of the Rat Tyrosine Hydroxylase Gene Target Accurate Tissue-Specific, Developmental, and Transsynaptic Expression in Transgenic Mice  
*S.A. Banerjee, P. Hoppe, M. Brilliant, and D.M. Chikaraishi*
- 4468 Distributed but Convergent Ordering of Corticostriatal Projections: Analysis of the Frontal Eye Field and the Supplementary Eye Field in the Macaque Monkey  
*H.B. Parthasarathy, J.D. Schall, and A.M. Graybiel*
- 4489 Fos-defined Activity in Rat Brainstem following Centripetal Acceleration  
*G.D. Kaufman, J.H. Anderson, and A.J. Beitz*
- 4501 Equipotentiality of Thalamo-Amygdala and Thalamo-Cortico-Amygdala Circuits in Auditory Fear Conditioning  
*L.M. Romanski and J.E. LeDoux*
- 4510 Muscarinic Potentiation of  $I_K$  in Hippocampal Neurons: Electrophysiological Characterization of the Signal Transduction Pathway  
*L. Zhang, J.L. Weiner, and P.L. Carlen*
- 4521 Spatiotemporal Sensitivity following Lesions of Area 18 in the Cat  
*T. Pasternak and J.H.R. Maunsell*
- 4530 Inhibitory Influence of the Dorsal Nucleus of the Lateral Lemniscus on Binaural Responses in the Rat's Inferior Colliculus  
*L. Li and J.B. Kelly*
- 4540 Nicotinic Acetylcholine Receptor Desensitization Is Regulated by Activation-induced Extracellular Adenosine Accumulation  
*S. Pitchford, J.W. Day, A. Gordon, and D. Mochly-Rosen*
- 4545 Patterns of Inter- and Intralaminar GABAergic Connections Distinguish Striate (V1) and Extrastriate (V2, V4) Visual Cortices and Their Functionally Specialized Subdivisions in the Rhesus Monkey  
*M.F. Kritzer, A. Cowey, and P. Somogyi*
- 4565 A Multipotent EGF-Responsive Striatal Embryonic Progenitor Cell Produces Neurons and Astrocytes  
*B.A. Reynolds, W. Tetzlaff, and S. Weiss*

**Cover picture:** False color representation of calcium accumulations (purple indicates low and red indicates high) in a Ca1 hippocampal pyramidal cell oriented with the basal dendrites below and the apical dendrites above. Calcium levels are shown during synaptic activation for progressively larger stimulus intensities (lower left to lower right followed by upper left to upper right). See Regehr and Tank, pp. 4202–4223.

Persons interested in becoming members of the Society for Neuroscience should address inquiries to the Society for Neuroscience, Suite 500, 11 Dupont Circle, N.W., Washington, D.C. 20036; (202) 462-6688.

Instructions to Authors appear in the January issue only. Through December 1992, copies of the Instructions can be obtained by writing *The Journal of Neuroscience*, Department of Neurobiology, Box 3209, 101G Bryan Building, Research Drive, Duke University Medical