

**A-714** Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)  
**Estrogen Decreases Experimental Ischemic Injury in a Genetic Model of Type 1 Diabetes Mellitus** Thomas K. Toung, M.D.; Patricia D. Hurn, Ph.D.; Richard J. Traystman, Ph.D.; Frederick E. Sieber, M.D., *Anesthesiology/Critical Care Medicine, Johns Hopkins Medical Institutions, Baltimore, MD, United States.* Type 1 diabetes increases stroke damage in rats; genderlinked; estradiol protects diabetic males.

**A-715** Room F, 10/16/2000 9:00 AM - 11:00 AM (PS)  
**Lidocaine Attenuates Hypoxic Changes of Electrophysiology, Biochemistry, and Morphology in Rat Hippocampal CA1 Pyramidal Cells** Jun Wang, M.D.; Kathleen M. Raley-Susman, Ph.D.; Rebecca Newman; James E. Cottrell, M.D.; Ira S. Kass, Ph.D., *Anesthesiology, SUNY Health Science Center, Brooklyn, NY, United States.* Lidocaine(10,100 $\mu$ M)improved morphology & physiology;100 improved Ca & protein synthesis.

**A-716** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Intravenous Mannitol Dilates Cerebral Arterioles by Activation of  $K_{atp}$  Channels** Johnny E. Brian, MD; Paula Ludwig; Michael M. Todd, MD, *Dept. of Anesthesia, University of Iowa Hospitals and Clinics, Iowa City, IA, United States.* Intravenous infusion of mannitol dilated cerebral arterioles in vivo by activation of  $K_{atp}$  channels.

**A-717** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Effects of Inhibition of Neuronal Nitric Oxide Synthase on NMDA-Induced Changes in Cerebral Blood Flow and  $O_2$  Consumption** Oak Za Cbi, M.D.; Xia Liu, M.D.; Harvey R. Weiss, Ph.D., *Department of Anesthesia, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ, United States.* Pretreatment with 7-NI attenuated NMDA-induced changes in cerebral blood flow and  $O_2$  consumption

**A-718** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Effect of Isoflurane on [ $^3$ H]Glutamate Transport into Glioma Cell Culture and Rat Brain Synaptosomes** Essam A. El-Maghrabi, M.D.; Diana O. Miller, M.D.; Ahmed M. Elnabawi, Ph.D.; Roderic G. Eckenboff, M.D.; Mohyee Eldefrawi, Ph.D., *Anesthesiology, University of Maryland Medical Center, Baltimore, MD, United States.* Isoflurane, at clinically relevant concentrations, enhanced  $^3$ H-Glu uptake into C6 glioma and synaptosomes.

**A-719** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Effect of Dexmedetomidine on Brain Neurotransmitter-Concentration during Cerebral Ischemia in the Rat** Kristin Engelhard, M.D.; Christian Werner, M.D.; Oliver Mollenberg, M.D.; Hilkea Rosenbrock, Ph.D.; Eberhard Kochs, M.D., *Klinik für Anaesthesiologie, Technische Universität, München, Germany.* Dexmedetomidine has no influence on ischemic increase of cerebral neurotransmitters.

**A-720** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Propofol Dilates Rat Intracerebral Arterioles by Inhibition of Voltage-Dependent  $Ca^{2+}$  Channels** Yasubiko Furuyama, MD, PhD; Yoshiaki Kondo, MD, PhD; Shoko Kawaguchi, MD; Mamoru Murakami, MD; Masato Kato, MD, *Dept. of Anesthesiology, Toboku Univ. Sch. of Med., Sendai, Japan.* Propofol significantly attenuated the voltage-dependent vasoconstricting effect by high concentration  $K^+$ .

**A-721** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Cerebral Vascularization Simulation : Are ICP - B Waves Witnesses of Autoregulation ?** Guillaume Gindre, MD; Frederic Cervenansky, PhD; Valerie Cluytens, MD; Jean E. Bazin, MD, PhD; Jean J. Lemaire, MD, PhD, *Department of Anesthesia, CHRU, Clermont-Ferrand, France.* Demonstration with a computer model that slow cyclic variations could be a direct witness of arterial capacity for autoregulation.

**A-722** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Brain Antioxidant Capacity in Transient Focal Ischemia in Rats** Lucio Glantz, MD; Aharon Avramovich, MD; Esther Shobami, PhD; Dmitry Azarov; Leonid A. Eidelman, MD, *Anesthesiology, Sackler School of Medicine, Tel Aviv Univ. Rabin Medical Center, Beilinson Campus, Petach Tikva, Israel.* The endogenous antioxidant levels decrease during brain ischemia and gradually increase at reperfusion

**A-723** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Non-Viral mRNA and DNA Gene Delivery to Rat Brain for Transient, Peri-Operative Gene Expression** James G. Hecker, PhD, MD; Van R. Irion, *Anesthesiology, University of California-Davis, Davis, CA, United States.* We demonstrate non-viral delivery and expression of Hsp70 and reporter enzymes in vitro and in vivo in rat brain. Transient gene expression in the CNS is proposed for neuro-protection.

**A-724** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Brain Oxygenation Response to  $CO_2$  in Dogs** William E. Hoffman, PhD; Guy Edelman, MD, *Anesthesiology, Univ Illinois, Chicago, IL, United States.* Brain tissue oxygen was measured during low, normal and high Pa $CO_2$  in 1.5% or 3% isoflurane or propofol anesthetized dogs. Oxygen decreased during hypocapnia with all anesthetics and increased with hypercapnia only during 1.5% isoflurane and propofol.

**A-725** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Comparative Neurotoxicity of Intrathecal Meperidine and Lidocaine in the Rat** Shoichiro Ibusuki, M.D., Ph.D.; Jin Hwan Choi, M.D., Ph.D.; Zexu Fang, M.D.; Andrew Bollen, M.D.; Kenneth Drasner, M.D., *Anesthesia and Perioperative Care, University of California, San Francisco, CA, United States.* The neurotoxicity of intrathecally administered meperidine exceeded that of intrathecally administered lidocaine.

**A-726** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Cortical Spreading Depression Induced Preconditioning Decreases Neuronal Apoptosis in Rats Subjected to Focal Ischemia** Joseph R. Kimbro, MD; Gus Atkins, MD; Masabiko Kawaguchi, MD; John C. Drummond, MD; Piyush M. Patel, MD, *Anesthesiology, University of California, San Diego, San Diego, CA, United States.* Spreading depression induced pre-conditioning decreased neuronal apoptosis in rats after focal ischemia.

**A-727** Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)  
**Effects of Mild Hypothermia on Cardiac Autonomic Nerve Endings Function** Hirotsoshi Kitagawa, MD; Tsuyoshi Akiyama, MD; Toji Yamazaki, MD, *Anesthesia, Nagabama City Hospital, Nagabama, Shiga, Japan*