EXPERIMENTAL NEUROSCIENCES

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(10,100μM)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 Chi, 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. Eckenhoff, 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 fur Anaesthesiologie, Technische Universitat, Munchen, 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 *Yasuhiko Furuyama, MD, PhD; Yoshiaki Kondo, MD, PhD; Shoko Kawaguchi, MD; Mamoru Murakami, MD; Masato Kato, MD, Dept. of Anesthesiology, Tohoku 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 Shohami, 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 CO2 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 PaCO2 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; Masahiko 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 apoptsis 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 *Hirotoshi Kitagawa, MD; Tsuyoshi Akiyama, MD; Toji Yamazaki, MD, Anesthesia, Nagahama City Hospital, Nagahama, Shiga, Japan*