

A-742 Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)
Comparative Neurotoxic Effects of Lidocaine and Bupivacaine in Human Neuronal SH-SY5Y Cells Jacek A. Wojtczak, MD, PhD, Depts of Anesthesiology and Pharmacology/Physiology, University of Rochester School of Medicine and Dentistry, Rochester, NY, United States

A-743 Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)
Increased Extracellular Ascorbate Release Reflects Glutamate Re-uptake during Early Stage of Reperfusion after Forebrain Ischemia Toshiko Yusa, M.D., Anesthesiology, University of the Ryukyus, Nakagami-gun, Okinawa, Japan. Ascorbate and glutamate in rat hippocampus were measured in vivo using a microdialysis biosensor system. Heteroexchange of ascorbate with glutamate was suggested.

A-744 Room E, 10/16/2000 2:00 PM - 4:00 PM (PS)
Ischemic Preconditioning Does Not Alter Reperfusion Blood Flow in a Rat Model of Spinal Cord Ischemia David A. Zvara, M.D.; David M. Colonna, M.D.; Dwight D. Deal, B.S.; Jason C. Vernon, B.S.; James M. Zboyovski, B.S., Dept. of Anesthesiology, Wake Forest Univ. School of Medicine, Winston-Salem, NC, United States. Ischemic preconditioning does not alter reperfusion blood flow in a rat model of spinal cord ischemia.

Experimental Neuroscience: Anesthetic Mechanisms / Physiology / Pharmacology

A-745 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
The Mechanism of Modulation of Neuronal Nicotinic Acetylcholine Receptors by Substance P T. Andoh, MD; H. Itoh, MD; T. Sasaki, MD; T. Higashi, MD; F. Okumura, MD, Anesthesiology, Yokohama City Univ. School of Medicine, Yokohama, Japan. Substance P inhibits neuronal nAChRs most likely by direct interactions with receptor subunits but not through activation of diffusible cytoplasmic factors.

A-746 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Isoflurane Depresses Electroencephalographic and Medial Thalamic Responses to Noxious Stimulation Via an Indirect Spinal Action Joseph F. Antognini, M.D.; Makoto Sudo, M.D.; Satoko Sudo, M.D.; E. Carstens, Ph.D., Department of Anesthesiology and Pain Medicine, U.C. Davis, Davis, CA, United States. Isoflurane action in the spinal cord diminished transmission of noxious input to brain and thalamus.

A-747 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
The Optical Isomers of Isoflurane Show Stereoselective Effects in Rats Robert Dickinson, PhD; Ian L. White, MB, BS; William R. Lieb, PhD; Nicholas P. Franks, PhD, Blackett Laboratory, Imperial College of Science, Technology & Medicine, London, United Kingdom. S(+) isoflurane is $40 \pm 8\%$ ($P < 0.001$) more potent than R(-) isoflurane at abolishing the righting reflex in rats.

A-748 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Are SK Channels the Molecular Target for Action of Antidepressants, Anticonvulsants, and Antipsychotics on Neurons? John C. Dreixler, Ph.D.; Jing-Tan Bian, Ph.D.; Ying-Jun Cao, M.D.; Jeffrey D. Roizen; Khaled M. Houamed, Ph.D., Anesthesia and Critical Care, University of Chicago, Chicago, IL, United States

A-749 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Org 25435 - A New Water-Soluble Intravenous Anaesthetic David K. Gemmell, PhD; Alan Byford, MSc; Hardy Sundaram, PhD; Jeremy J. Lambert, PhD; Niall Hamilton, PhD, Pharmacology, Organon Labs. Ltd, Newhouse, Motherwell, United Kingdom. Org 25435 is anesthetic in mice, and in rats it produced EEG Burst Suppression and maintained anesthesia by infusion. It is a positive modulator of the GABA_A receptor.

A-750 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
An Amino Acid in the GABA_A Receptor β 1 Subunit is Critical for Alkane Anesthetic Effects Eric P. Greenblatt, MD; Xin Meng, MD, Anesthesia, Univ of Penn, Philadelphia, PA, United States. Mutation of a critical amino acid in the GABA_A β 1 subunit generated receptors that show no modulation by halothane or chloroform, but enhancement by isoflurane or enflurane.

A-751 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Isoflurane Potentiates GABA_A Receptor-Mediated Metabolic Depression In Vivo: A Quantitative Positron Emission Tomography (PET) Study Ferenc Gyulai, M.D.; Leonard Firestone, M.D.; Mark Mintun, M.D., Anesthesiology/CCM, University of Pittsburgh, Pittsburgh, PA, United States. Isoflurane potentiates neuronal inhibition both via GABA_A receptors and other mechanisms.

A-752 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Effects of Isoflurane and Sevoflurane on GABA_A Receptor: Potentiation, Activation, and Channel Block Gerhard Hapfelmeier, MD; Rainer Haseneder; Eberhard Kochs, MD, Dept. of Anesthesiology, Technical University, Munich, Germany. Iso and Sev reduce the EC₅₀ of GABA. In addition, the volatiles are agonists and open-channel blocker at the GABA_A receptor.

A-753 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Membrane Cholesterol Affects the Kinetics of 5-HT₃ Receptor and GABAA Receptor Gerhard Hapfelmeier, MD; Brigitte Eisen-samer, PhD; Walter Zieglgansberger, MD; Eberhard Kochs, MD; Rainer Rupprecht, MD, Clin. Neuropharmacol., Max-Planck-Institute of Psychiatry, Munich, Germany. Increasing membrane cholesterol slows down 5-HT₃ receptor activation and desensitization and GABAA receptor deactivation.

A-754 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Multiple Mutations Are Required to Remove Chloroform Sensitivity from GABA_A Receptors Neil L. Harrison, PhD; Alyson Andreasen, BA; Anna Viner, BA; Adam Light; Andrew Jenkins, PhD, Department of Anesthesiology, Weill Medical College of Cornell University, New York, NY, United States

A-755 Room D, 10/17/2000 9:00 AM - 11:00 AM (PS)
Reduced Anxiety and Stress Responses in Mice Lacking the NK1 Receptor Mark J.S. Heath, M.D.; Luca Santarelli, Ph.D.; Pierre C. Debs, M.S.; Rene Hen, Ph.D., Anesthesiology, Columbia University, New York, NY, United States. A series of behavioral, cellular, and biochemical studies showed that mice lacking the NK1 receptor display markedly reduced anxiety and stress responses.