

**A-1341 Room G, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Interaction between Volatile Anesthetics and Hypoxia in Porcine Tracheal Smooth Muscle** *Michiaki Yamakage, MD, PhD; Xiangdong Chen, MD; Naoki Tsujiguchi, MD; Yasuhiro Kamada, MD; Akiyoshi Namiki, MD, PhD, Anesthesiology, Sapporo Medical University School of Medicine, Sapporo, Hokkaido, Japan.* Hypoxia inhibits airway smooth muscle contraction independently of intracellular  $Ca^{2+}$ .

**A-1342 Room G, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Both PKA and PKG are Essential in Regulating Basal Ciliary Beat Frequency in Rat Tracheal Epithelial Cells** *Xinhua Zhan, M.D., PhD; Dechun Li, M.D., PhD; Roger A. Johns, M.D., Department of Anesthesiology, Union Affiliated Hospital of Tongji Medical University, Wubai, China.* Inhibition of PKA or PKG did not change CBF. Inhibition of both decreased CBF significantly.

### Respiration: Airway / Pulmonary Vascular Smooth Muscle

**A-1343 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Mechanisms of Bronchoprotection by Propofol In Vivo: Effects of Preservative** *Robert H. Brown, M.D., M.P.H.; Robert S. Greenberg, M.D.; Elizabeth M. Wagner, PhD, Anesthesiology and Critical Care Medicine, Johns Hopkins Medical Institutions, Baltimore, MD.* Metabisulfite (MBS) increases direct and neurally-mediated bronchoconstriction. Propofol without (MBS) decreased neurally-mediated bronchoconstriction.

**A-1344 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Intravenous Colforsin Daropate Prevents Thiamylal-Fentanyl-Induced Bronchoconstriction** *Zen'ichiro Wajima, MD, PhD; Tatsusuke Yoshikawa, MD, PhD; Akira Ogura, MD, PhD; Kazuyuki Imanaga, MD; Tetsuo Inoue, MD, PhD, Dept. of Anesthesia, Chiba Hokusoh Hospital, Nippon Medical School, Inba, Chiba, Japan.* After thiamylal and fentanyl, airway resistance unchanged by iv. colforsin daropate.

**A-1345 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Different Inhibitory Effects of Volatile Anesthetics on T- and L-type Calcium Channels in Airway Smooth Muscle** *Michiaki Yamakage, MD, PhD; Xiangdong Chen, MD; Naoki Tsujiguchi, MD; Yasuhiro Kamada, MD; Akiyoshi Namiki, MD, PhD, Anesthesiology, Sapporo Medical Univ. Sch. of Med., Sapporo, Hokkaido, Japan.* Volatile anesthetics have more inhibitory effects on T-type calcium channels.

**A-1346 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Effect of Hexanol on Calcium Sensitivity in Airway Smooth Muscle** *Hayashi Yoshimura, MD; Keith A. Jones, MD; William J. Perkins, MD; Shosuke Takahashi, MD; David O. Warner, MD, Department of Anesthesiology, Mayo Clinic and Foundation, Rochester, MN, United States.* Hexanol inhibits agonist-induced  $Ca^{2+}$ -sensitization in permeabilized airway smooth muscle

**A-1347 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Propofol Increases Myofilament Calcium Sensitivity Via Protein Kinase C Activation** *Satoru Tanaka, MD; Izumi Kondo, MD; Derek Damron, PhD; Paul Murray, PhD, Anesthesiology Research, Cleveland Clinic Foundation, Cleveland, OH, United States.* Propofol decreases  $[Ca^{2+}]_i$  but increases myofilament  $Ca^{2+}$  sensitivity in pulmonary artery smooth muscle.

**A-1348 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Endothelin-1 Induces Sustained Contraction without Myosin Light Chain Phosphorylation in Porcine Pulmonary Artery** *Chie Sakibara, M.D., PhD; Tetsuya Kai, M.D., PhD; Shosuke Takahashi, M.D., PhD, Department of Anesthesiology, Kyushu University, Fukuoka, Japan.*  $Ca^{2+}$ -insensitive contraction might be mediated by phosphorylation of the protein that is sensitive to H-7 and staurosporine.

**A-1349 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Selective Inhibition of the Triphasic HPV Response by Inhalational Anesthetics** *Bryan E. Marshall, MD; Masami Ozaki, MD; James E. Baumgardner, MD PhD; Carol Marshall, PhD, Center for Anesthesia Research, University of Pennsylvania Health System, Philadelphia, PA, United States.* These studies suggest that isoflurane and halothane inhibit the force sensitization mechanisms of HPV with the greatest potency.

**A-1350 Room 309, 10/16/2000 2:00 PM - 3:30 PM (PD)**  
**Endogenous Nitric Oxide Does Not Play a Significant Role in the Maintenance of Basal Pulmonary Microvascular Tone** *Sanjay Bhatia, MB/BS; Paul Murray, PhD; David DeFily, PhD, Center for Anesthesiology Research, Cleveland Clinic Foundation, Cleveland, OH, United States.* Nitric oxide does not regulate the baseline diameter of 40-140  $\mu$ m pulmonary arteries *in vivo*.

### Respiration: Lung Injury / Cellular Physiology

**A-1351 Room 224-226, 10/16/2000 3:30 PM - 5:00 PM (PD)**  
**Human Airway Smooth Muscle Expresses mRNA Encoding Seven Subtypes of Adenylyl Cyclase** *Charles W. Emala, M.D.; Dingbang Xu, Anesthesiology, Columbia University, New York, NY, United States.* Messenger RNA encoding 7 of the 9 known subtypes of adenylyl cyclase, the target protein of  $\beta$ -adrenoceptor bronchodilating agents, was identified by RT-PCR in human airway smooth muscle.

**A-1352 Room 224-226, 10/16/2000 3:30 PM - 5:00 PM (PD)**  
**Biochemical Mechanism for the Hydrogen Peroxide-Induced Inhibition of Calcium Sensitivity in Airway Smooth Muscle** *Robert R. Lorenz; William J. Perkins; David O. Warner; Keith A. Jones, Anesthesiology, Mayo Clinic and Foundation, Rochester, MN, United States.*  $H_2O_2$  relaxes airway smooth muscle in part by decreasing regulatory myosin light chain phosphorylation and  $Ca^{2+}$  sensitivity.

**A-1353 Room 224-226, 10/16/2000 3:30 PM - 5:00 PM (PD)**  
**Nitric Oxide Production and Stimulation of Ciliary Motility in Rat Tracheal Ciliated Epithelial Cells** *Gotaro Shirakami, M.D.; Dechun Li, M.D., PhD; Kazubiko Fukuda, M.D.; Roger A. Johns, M.D., Department of Anesthesia, Kyoto University Hospital, Kyoto, Japan.* Nitric oxide production was detected and it was positively correlated with ciliary motility in cultured rat tracheal epithelial cells.

**A-1354 Room 224-226, 10/16/2000 3:30 PM - 5:00 PM (PD)**  
**Hypoxia Mediates Upregulation of ICAM-1 in Rat Alveolar Macrophages** *Beatrice Beck-Schimmer, M.D.; Caveh Madjdipour, M.D.; Thomas Pasch, M.D.; Ralph C. Schimmer, M.D., Institutes of Anesthesiology and Physiology, University of Zurich, Zurich, Switzerland.* Hypoxia upregulates ICAM-1 expression in alveolar macrophages time- and concentration-dependent.