

**A-111 Room E, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Screening of the Ryanodine Receptor Gene and Identification of Novel Mutations in North American Malignant Hyperthermia Population** *N. Sambuughin, PhD; Y. Sei, MD, PhD; T. Nelson, PhD; H. Rosenberg, MD; S. Muldoon, MD, USUHS, Bethesda, MD, United States.* Analysis of 76 unrelated patients revealed 6 known and 4 novel RYR1 mutations. These mutations account for 25% of patients.

**A-112 Room E, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Comparison of Halothane and Sevoflurane Effects on Calcium Influx in Cardiac Myocytes** *Inanc Seckin, M.D.; Gary C. Sieck, PhD; Y.S. Prakash, PhD, Anesthesiology, Mayo Clinic, Rochester, MN, United States.* This study comparing the effects of halothane vs. sevoflurane on L-type  $Ca^{2+}$  channels in adult rat cardiac muscles found sevoflurane to have considerably smaller inhibitory effects.

**A-113 Room E, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Anesthesia and Antianalgesia** *Yi Zhang, MD; James Sonner, MD; Robert Dutton, MD; Edmond I. Eger II, MD, Department of Anesthesia and Perioperative Care, University of California, San Francisco, San Francisco, CA, United States.* Isoflurane, halothane, nitrous oxide, and diethyl ether produce antianalgesia at subanesthetic concentrations of approximately 0.1 MAC.

**A-114 Room E, 10/17/2000 2:00 PM - 4:00 PM (PS)**  
**Correlation of Inhaled Anesthetic Potency between *Drosophila Melanogaster* and Mammals** *Jian-Xin Zhou, M.D.; Jun Xiao, M.D.; Jin Liu, M.D., Department of Anesthesiology and Critical Care Medicine, The First Affiliated Hospital, West China University of Medical Sciences, Cheng-Du, Si-Chuan, China.* *D. melanogaster* is a representative model in study of anesthetic mechanism.

### Anesthetic Action: Mechanisms of General Anesthesia - Model Protein Interactions

**A-115 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Location of a General Anesthetic Binding Site in Protein Kinase C Cys-2 Region Identified by Photoaffinity Labeling and Mass Spectrometry** *George H. Addona, PhD; Warren S. Sandberg, M.D., PhD; Keith W. Miller, D. Phil., Anesthesia and Critical Care, Massachusetts General Hospital, Boston, MA, United States.* Tyr-236 on PKC delta2, near the phorbol ester pocket, is the site for photoreactive anesthetics.

**A-116 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Investigation of the General Anesthetic Binding Sites on Firefly Luciferase Using a Photoreactive General Anesthetic** *George H. Addona, PhD; Claire Tseng, B.A.; Keith W. Miller, D.Phil., Anesthesia and Critical Care, Massachusetts General Hospital, Boston, MA, United States.* A novel photoreactive general anesthetic binds irreversibly at the active site of luciferase.

**A-117 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Luciferase as a Model for the Site of Inhaled Anesthetic Action** *Yi Zhang, MD; Caroline R. Stabernack, MD; James Sonner, MD; Tomohiro Yamakura, PhD; John Mibic, PhD, Dept. of Anesthesia and Perioperative Care, University of California, San Francisco, CA, United States.* Luciferin does not affect MAC or GABA/Ach. receptors and luciferase may not be a good model for the site of anesthetic action.

**A-118 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Xenon Does Not Fit a Model Target for Potent Inhalational Agents** *Jonatban W. Tanner, M.D., PhD; Jonas S. Jobansson, M.D., PhD; Paul A. Liebman, M.D.; Roderic G. Eckenboff, M.D., Department of Anesthesia, University of Pennsylvania, Philadelphia, PA, United States.* Xenon destabilizes serum albumin, suggesting that this protein is not a good model for xenon targets the way it is for potent volatile anesthetic agents.

**A-119 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Differential Anesthetic Binding to a G Protein Coupled Receptor Demonstrated Using Tryptophan Fluorescence** *Yumiko Ishizawa, M.D., PhD; Jonas S. Jobansson, M.D., PhD; Paul A. Liebman, M.D.; Roderic G. Eckenboff, M.D., Department of Anesthesia, University of Pennsylvania, Philadelphia, PA, United States.* Halothane quenched tryptophan fluorescence in rhodopsin, suggesting halothane binds in its hydrophobic core.

**A-120 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Prediction of the Tertiary Structure of an Anesthetic Binding Site** *Edward J. Bertaccini, MD; James R. Trudell, PhD, Anesthesia, Palo Alto VA/Stanford University, Palo Alto, CA, United States.* The binding site for volatile anesthetics in the GABAR2 is in the middle of the alpha helical, tetrameric, transmembrane subunits and is composed of at least 3 well known and adjacent amino acids.

**A-121 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Creator's View of Anesthetics: *Ab Initio* Calculation of Halothane and Sevoflurane** *Igor Z. Zubrzycki, PhD; Yan Xu, PhD; Pei Tang, PhD, Department of Anesthesiology/CCM and Pharmacology, University of Pittsburgh School of Medicine, Pittsburgh, PA.* Determination of structures and charge distributions of halothane and sevoflurane by *ab initio* calculation.

**A-122 Room 302, 10/16/2000 9:00 AM - 10:30 AM (PD)**  
**Direct Interaction of Halothane with a Ligand Binding Site in a G Protein Coupled Receptor** *Yumiko Ishizawa, M.D.; Paul A. Liebman, M.D.; Roderic G. Eckenboff, M.D., Department of Anesthesia, University of Pennsylvania, Philadelphia, PA, United States.* Halothane competitively decreased the rate of ligand binding in rhodopsin, suggesting halothane shares its ligand binding site.

### Anesthetic Action: Opiates

**A-123 Room 302, 10/17/2000 9:00 AM - 10:30 AM (PD)**  
**Anesthetic Potency in  $\mu$ -Opioid Receptor Knockout Mice** *Albert Dahan, MD PhD; Elise Sarton, MD; Luc J. Teppema, PhD, Department of Anesthesiology, Leiden University Medical Center, Leiden, Netherlands.* The anesthetic potency of sevoflurane is partially dependent on the presence of  $\mu$ -opioid receptors.

**A-124 Room 302, 10/17/2000 9:00 AM - 10:30 AM (PD)**  
 **$\mu$ -Receptor Agonism with Alfentanil Increases Striatal D2 Receptor Dopamine Binding in Man. A PET Study** *Nora M. Hagelberg, MD; Jaana K. Kajander, MD; Jarmo Hietala, MD; Kjell Nagren, PhD; Harry Scheinin, MD, Anesthesiology, Turku University Hospital, Turku, Finland.* In a PET study, alfentanil was found to increase D2 binding slightly but statistically significantly in man.