

**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, *PbD*; Y. Sei, *MD, PbD*; T. Nelson, *PbD*; 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, *Pb.D.*; Y.S. Prakash, *Pb.D.*, *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, *Pb.D.*; Warren S. Sandberg, *M.D.*, *Pb.D.*; 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, *Pb.D.*; 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, *PbD*; John Mibic, *PbD*, *Dept. of Anesthesia and Perioperative Care, University of California, San Francisco, 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., Pb.D.*; Jonas S. Jobansson, *M.D., Pb.D.*; 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., Pb.D.*; Jonas S. Jobansson, *M.D., Pb.D.*; 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, *PbD*, *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, *Pb.D.*; Yan Xu, *Pb.D.*; Pei Tang, *Pb.D.*, *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 PbD*; Elise Sarton, *MD*; Luc J. Teppema, *PbD*, *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, *PbD*; 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.