

Summer Student Research Program  
Project Description

**FACULTY SPONSOR'S NAME AND DEGREE:** *Jiang-Hong Ye*

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**PROJECT TITLE (200 Characters max):**

*Effects of alcohol on anesthetics*

**HYPOTHESIS:**

Alcohol alters the amount of anesthetics needed for surgery

**PROJECT DESCRIPTION (Include design, methodology, data collection, techniques, data analysis to be employed and evaluation and interpretation methodology)**

The percentage of rats exhibiting loss of righting reflex (LORR) induced by general anesthetics such as propofol and etomidate will be compared in the absence and presence of

- 1) Acutely administered ethanol. The onset time, the duration of LORR will also be compared.
- 2) Additional experiments could be conducted on those rats chronically treated with EtOH, to assess whether these animals are more tolerant to general anesthetics.
- 3) Acutely administered EtOH in animals which are chronically administered EtOH for a several weeks.

**SPONSOR'S MOST RECENT PUBLICATIONS RELEVANT TO THIS RESEARCH:**

*Li KY, Guan YZ, Krnjević K, Ye JH. Propofol facilitates glutamatergic transmission to neurons of the ventrolateral preoptic nucleus. Anesthesiology. 2009 Dec;111(6):1271-8. PubMed PMID: 19934872.*

*Nguyen H ... JH Ye. Behavior and cellular evidence for propofol-induced hypnosis involving brain glycine receptors Anesthesiology 2009, 110(2):326-32.*

**IS THIS PROJECT SUPPORTED BY EXTRAMURAL FUNDS?**

Yes  or No

**(IF YES, PLEASE SUPPLY THE GRANTING AGENCY'S NAME)**

**THIS PROJECT IS:**  Clinical  Laboratory  Behavioral   
Other

**THIS PROJECT IS CANCER-RELATED**

**Please explain Cancer relevance**

**THIS PROJECT IS HEART, LUNG & BLOOD- RELATED**

**Please explain Heart, Lung, Blood relevance**

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**THIS PROJECT EMPLOYS RADIOISOTOPES**

**THIS PROJECT INVOLVES THE USE OF ANIMALS**   
PENDING  APPROVED  IACUC PROTOCOL #

**THIS PROJECT INVOLVES THE USE OF HUMAN SUBJECTS**   
PENDING  APPROVED  IRB PROTOCOL # M

**THIS PROJECT IS SUITABLE FOR:**

UNDERGRADUATE STUDENTS  ENTERING FRESHMAN   
SOPHOMORES  ALL STUDENTS

**THIS PROJECT IS WORK-STUDY:** Yes  or No

**THIS PROJECT WILL BE POSTED DURING ACADEMIC YEAR  
FOR INTERESTED VOLUNTEERS?:** Yes  or No

**WHAT WILL THE STUDENT LEARN FROM THIS EXPERIENCE?**

The mechanism underlying the influence of ethanol on the effects of general anesthetics. The mechanism of general anesthetics induced behavioral changes, and of ethanol induced behavioral changes.