



The College of New Jersey

School of Science

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September 8, 2008

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Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

03019957

Subject: Amendment to License Number 29-15765-02, The College of New Jersey

Dear Licensing Assistance Team:

An amendment to the subject license is submitted for your approval. The nature of the changes, additions and deletions are described below and reference the applicable items listed in NUREG-1556, Vol. 7. All other items remain the same.

Item 7: Propose Stephanie Sen be added as an Authorized User for all items listed in Number 6 on the license. For review and approval, please see the attached information that demonstrates that the proposed Authorized User is qualified by training and experience with the types and quantities of licensed material proposed to be used.

Your consideration of this amendment is greatly appreciated. Please contact Brian Webb at (609)771-2881 for any additional information you may need to authorize this amendment. Thank you.

Sincerely,

Jeffrey M. Osborn, Ph.D.
Radiation Safety Administrator
Dean of School of Science

attachment

cc: Kathryn E. Leverton, TCNJ
Brian Webb, TCNJ

2008 SEP 11 PM 12:31

RECEIVED
REGION I

142795
NMSS/RGNI MATERIALS-002

STEPHANIE E. SEN
Department of Chemistry
The College of New Jersey
2000 Pennington Road, Ewing New Jersey, 08628
(609) 771-3287 (office), email: sen@tcnj.edu

Educational Background

Ph.D., Chemistry, 1989, State University of New York at Stony Brook
B.A., Chemistry (cum laude), 1984, Bryn Mawr College

Professional Experience

Associate Professor of Chemistry, The College of New Jersey, 2008-current
Associate Professor of Chemistry, Indiana U.-Purdue U. Indianapolis (IUPUI), 1998-2008.
Adjunct Associate Professor of Biology, IUPUI, 2002-2008.
Assistant Professor of Chemistry, IUPUI, 1992-1998.
Postdoctoral, Organic Chemistry, 1990-1991, Stanford University
Postdoctoral, Molecular Biology, 1989-1990, Research Institute of Scripps Clinic

Experience

Received formal course training for the handling of radioisotopes through the SUNY Stony Brook, Radiation Safety Office in 1985, and was subsequently made an authorized user to handle [³H] and [¹⁴C]labeled materials (1985-1989). Performed numerous *in vitro* assays with [³H] and [¹⁴C]labelled organic compounds. Synthesized [¹⁴C]labelled squalene and [³H]labelled trisnorfarnesol with the use of [¹⁴C]methyl iodide and sodium borotritide reagents.

Received on-the-job training for the handling of ¹²⁵I while at Scripps Research Institute (1991) and was made an authorized user to handle [³H], [¹⁴C], and [¹²⁵C]labeled materials. Labelled several antibodies with [¹²⁵I]Nal and performed library screening with these prepared labeled proteins.

Received formal course training for handling of radioisotopes through IU Medical School, Radiation Safety office in 1992, and subsequently received radionucleotide use permit (see attachment for most recent permit information) at IUPUI, from 1992-2008.

- Handled a wide range of [³H] and [¹⁴C]labelled materials, for use in biological assays and radiosynthesis.
- Provided on-the-job training for the handling of radioisotopes to 14 graduate/undergraduate students.
- Maintained laboratory radionucleotide inventory, manifested radionucleotide waste, and performed monthly radiation surveys.

Articles Published Involving the Use and/or Synthesis of Radioactive Materials

Sen, S.E. and Prestwich, G.D. Squalene Analogues Containing Isopropylidene Mimics as Potential Inhibitors of Pig Liver Squalene Epoxidase and Oxidosqualene Cyclase. *J. Med. Chem.* **1989**, *32*, 2152-2158.

Sen, S.E. and Prestwich, G.D. Trisnorsqualene Alcohol, A Potent Inhibitor of Vertebrate Squalene Epoxidase. *J. Am. Chem. Soc.* **1989**, *111*, 1508-1510.

Sen, S.E.; Garvin, G.M. Substrate Requirements for Lepidopteran Farnesol Dehydrogenase. *J. Agr. Food Chem.* **1995**, *43*, 820-825.

Sen, S.E.; Garvin, G.M. A Convenient Synthesis of (2E,6E)-10-[³H]-Farnesol and (2E,6E)-10-[³H]-Farnesal for Insect Dehydrogenase Studies. *J. Labelled Compd. Radiopharm.* **1995**, *36*, 1063-1069.

Sen, S.E.; Ewing, G.J.; and Childress, M. An *In Vitro* Assay for Monitoring Prenyl Transferase Activity in Lepidopteran Corpora Allata Homogenates. *J. Agr. Food Chem.* **1996**, *44*, 472-476.

Crowell, D.N.; Sen, S.E.; and Randall, S.K. Prenylcysteine α -Carboxyl Methyltransferase in Suspension-Cultured Tobacco Cells. *Plant Physiol.*, **1998**, *118*, 115-123.

Sen, S.E.; Hitchcock, J.R.; Jordan, J.L.; Richard, T. Juvenile hormone biosynthesis in *M. sexta*: Substrate specificity of insect prenyltransferase utilizing homologous diphosphate analogs *Insect Biochem. Mol. Biol.*, **2006**, *36*, 827-834.

Sen, S.E.; Brown, D.C.; Sperry, A.E.; Hitchcock, J.R. Prenyltransferase of larval and adult *M. sexta* corpora allata. *Insect Biochem. Mol. Biol.* **2007**, *37*, 29-40.

Crowell, D.N.; Huizinga, D.H.; Deem, A.K.; Trobaugh, C.; Denton, R.; Sen, S.E. *Arabidopsis thaliana* plants possess a specific farnesylcysteine lyase that is involved in detoxification and recycling of farnesylcysteine. *Plant J.* **2007**, *50*, 839-847.



INDIANA UNIVERSITY
SCHOOL OF MEDICINE

Radionuclide Use Permit

Authorization Number: SENS01

Issued To: Stephanie Sen, Ph.D.

Issued Date: 12/22/2005

Expiration Date: 12/31/2009

Amended Date:

In accordance with the statements and representatives made in your application for Project Approval, Project Amendment, and/or your Progress Report, an approval authorizing the below named individuals to order, possess, and use the materials or items designated below in accordance with NRC regulations, state regulations, University regulations, and such other conditions as are herein specified is hereby issued.

1. Personnel / Status

Approved

Corey Trobaugh

Ryan Denton

Stephanie Sen, Ph.D.

2. Locations of Use

Approved

CL 916

LD 206 S

LD 304

LD 307

SL 347 S

3. Nuclides / Chemical Forms / Exp. Limit / Poss. Limit

Nuclide	Exp. Limit	Poss. Limit
C-14	1	6

ethylbromide (A)

farnesol (A)

propionic acid

acetic acid

isopentenyl diphosphate

valine

methyl iodide

methyltriphenylphosphonium iodid

isoleucine

leucine

methionine

H-3	500	1000
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geranyl pyrophosphate (A)

mevalonic acid pyrophosphate (A)

acetic acid

ethylbromide (A)

dimethyl allyl diphosphate (A)

sodium borohydride

isoleucine

methyltriphenylphosphonium iodid

leucine

methionine

valine

juvenile hormone III



INDIANA UNIVERSITY
SCHOOL OF MEDICINE

Radionuclide Use Permit

ecdysone

farnesyl pyrophosphate

P-32	0.002	1
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nucleotides

S-35	0.01	3
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amino acids

nucleotides

4. Authorized Use

Testing of small molecular inhibitors.

Biosynthesis of juvenile hormone homologs.

5. Conditions of Authorization

An "up-to-date" inventory must be maintained for each radionuclide listed on the permit. The inventory must include all activity in the laboratory (including unused material and waste).

Contamination (wipe) surveys are required to be performed and recorded after each experiment when utilizing the following radionuclides and activities specified: greater than 10 mCi of H-3.

Contamination (wipe) surveys are required to be performed and recorded each calendar month when utilizing radioactive materials.

Direct radiation (GM) surveys are required to be performed and recorded at least monthly when utilizing the following radionuclides and activities specified: P-32.

A radiation survey meter (GM) is required to be available when utilizing the following radionuclides and activities specified: P-32.

Urine samples must be taken and submitted to the Radiation Safety Office for bioassay analysis when at least 20 mCi of the following radionuclides are utilized in an experiment: H-3.

Volatile chemical forms shall be utilized in a chemical fume hood.

Synthesis shall be performed in the fume hood in CL 916 and LD 3307.

Disposal of C-14 scintillation vials as nonradioactive (as specified in NRC regulations) by lab personnel is allowed. The disposals shall be logged on the "Non-radioactive Waste Disposal Log" (app 3/12/96).

Since the following laboratory is defined as a "Specific-Use Area" on this permit, only the designated equipment may be utilized for radioactive work or storage. Appropriate surveys must be performed on this equipment as per the outlined survey frequency listed in this section. The room and equipment specified for use are: freezer in LD 206 and freezer in SL 347.

This is to acknowledge the receipt of your letter/application dated

9/8/08, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment (29-15765-02)
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 142795.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.