Modification Form for Permit BIO-UWO-0019

Permit Holder: Shun-Cheng Li

Approved Personnel
(Please stroke out any personnel to be removed)

~~Haiming Huang~~
Kavin Kennedy
Karen
Shelly Sandiford
Thamara Dayarathna
~~Elena Ostrakhovitch~~
Zezhou Wang
Chengjun Li

Additional Personnel
(Please list additional personnel here)

Xuan Cao
Gurpreet Dhami
Courtney Voss
Marek Galka
Ran Wei

	Please stroke out any approved Biohazards to be removed below	Write additional Biohazards for approval below. *
Approved Microorganisms	E-coli, DH5 alpha, BL21	
Approved Cells	Rodent (primary, spleen, B/T cells), Human (established) BJAB, Jurkat, 293 HEK, LG2, Namalwa, Rodent (established), A20, MeT-5A cell line	A-549 human lung cancer cells (ATCC)
Approved Use of Human Source Material		
Approved GMO	pMIG (cMV2), pGEX4T3, pRc/CMV, pCDNA3.1-hygro	

pFLAG (CMV2
pDEST15
pGEX-2T
pGEX-4T2

** PLEASE ATTACH A MATERIAL SAFETY DATA SHEET OR EQUIVALENT FOR NEW BIOHAZARDS.*
*** PLEASE ATTACH A BRIEF DESCRIPTION OF THE WORK THAT EXPLAINS THE BIOHAZARDS USED AND HOW THEY WILL BE USED.*

Classification: 2

Date of last Biohazardous Agents Registry Form: Oct 10, 2007

Signature of Permit Holder: _____

BioSafety Officer(s): _____

Chair, Biohazards Subcommittee: _____

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Approved use of Animals	mice, rats	
Approved Toxin(s)	Cholera toxin	

Plasmid list

pDEST15
pGEX-2T
pGEX-4T2
pGEX-4T3
} used to express GST fusion proteins in E. coli cells.

pMIG
pFLAG/CMV2
pRc/CMV
pcDNA3.1(+)/Hygro
} used to express proteins in mammalian cells.

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Chair, Biohazards Subcommittee: _____

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Cell Biology

ATCC® Number: CCL-185™ Order this Item

Designations: A549

Biosafety Level: 1

Medium & Serum: See Propagation

Organism: *Homo sapiens* (human)

Price: $256.00

Depositors: M Lieber

Shipped: frozen

Growth Properties: adherent

Morphology: epithelial

PHOTO

Source: **Organ:** lung
Disease: carcinoma

Cellular Products: keratin

Permits/Forms: In addition to the MTA mentioned above, other ATCC and/or regulatory permits may be required for the transfer of this ATCC material. Anyone purchasing ATCC material is ultimately responsible for obtaining the permits. Please click here for information regarding the specific requirements for shipment to your location.

Related Cell Culture Products

Isolation: **Isolation date:** 1972

Applications: transfection host(technology from amaxa Roche FuGENE® Transfection Reagents)

Reverse Transcript: negative

DNA Profile (STR):
Amelogenin: X,Y
CSF1PO: 10,12
D13S317: 11
D16S539: 11,12
D5S818: 11
D7S820: 8,11
THO1: 8,9.3
TPOX: 8,11
vWA: 14

Cytogenetic Analysis: This is a hypotriploid human cell line with the modal chromosome number of 12, occurring in 24% of cells. Cells with 64 (22%), 65, and 67 chromosome counts also occurred at relatively high frequencies; the rate with higher ploidies was low at 0.4%. There were 6 markers present in single copies in all cells. They include der(6)t(1;6)(q11;q27); ?del(6) (p23); del(11) (q21), del(2) (q11), M4 and M5. Most cells had two X and two Y chromosomes. However, one or both Y chromosomes were lost in 40% of 50 cells analyzed. Chromosomes N2 and N6 had single copies per cell; and N12 and N17 usually had 4 copies.

Isoenzymes: G6PD, B

Age: 58 years

Gender: male

Ethnicity: Caucasian

Comments: This line was initiated in 1972 by D.J. Giard, et al. through explant culture of lung carcinomatous tissue from a

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Additional Personnel
(Please list additional personnel here)

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Approved Use of Human Source Material		
Approved GMO	pMIG, cMV2, pGEX4T3, pRc/CMV, pCDNA3.1-hygro	

** PLEASE ATTACH A MATERIAL SAFETY DATA SHEET OR EQUIVALENT FOR NEW BIOHAZARDS.*
*** PLEASE ATTACH A BRIEF DESCRIPTION OF THE WORK THAT EXPLAINS THE BIOHAZARDS USED AND HOW THEY WILL BE USED.*

Date of last Biohazardous Agents Registry Form Oct 10, 2007

Signature of Permit Holder: [signature]

BioSafety Officer(s): [signature] Oct 27/08

Chair,Biohazards Subcommittee: [signature]

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Approved use of Animals	mice, rats	
Approved Toxin(s)	Cholera toxin	

MeT-5A cell line (Biosafety Level 2) in from ATCC.
MeT-5A cells will be operated in biosafety level 2 Lab in the culture hood.
MeT-5A cells will be used to study the structure and function of LNX Protein for the purpose of scientific research.

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Date of last Biohazardous Agents Registry Form Oct 10, 2007

Signature of Permit Holder:

BioSafety Officer(s):

Chair,Biohazards Subcommittee:

BIO-UWO-0017

THE UNIVERSITY OF WESTERN ONTARIO
BIOHAZARDOUS AGENTS REGISTRY FORM
Revised Biohazards Subcommittee: January, 2007

This form must be completed by each Principal Investigator holding a grant administered by the University of Western Ontario where the use of biohazardous infectious agents are described in the experimental work proposed. The form must also be completed if animal work is proposed involving the use of biohazardous agents or animal carrying zoonotic agents infectious to humans. Containment Levels will be required in accordance with Laboratory Biosafety Guidelines, 3rd edition, 2004, Health Canada (HC) or Containment Standards for Veterinary Facilities, 1st edition 1996, Canadian Food Inspection Agency (CFIA).

Completed forms are to be returned to Occupational Health and Safety (Stevenson-Lawson Building, Room 60) for forward to the Biohazard Subcommittee. For questions regarding this form, please contact the Biosafety Coordinator at extension 81135. If there are changes to the information on this form (excluding grant title and funding agencies) modifications must be completed and sent to Occupational Health and Safety. See website: www.uwo.ca/humanresources

PRINCIPAL INVESTIGATOR Shawn Li
SIGNATURE [signature]
DEPARTMENT Biochemistry
ADDRESS SDRI 107A
PHONE NUMBER x 82910
EMAIL sli@uwo.ca

Location of experimental work to be carried out: Building(s) SDRI Room(s) 108, 112
*For work being performed at Institutions affiliated with the University of Western Ontario, the Safety Officer for the Institution where experiments will take place must sign the form prior to it being sent to Occupational Health and Safety (See Section 12.0, Approvals). For research being done at Lawson Health Research Institute, London Regional Cancer Centre, Child and Parent Research Institute or Robarts Research Institute, University Biosafety Committee members can also sign as the Safety Officer.

TITLE OF GRANT(S): Biochemistry and functional characterization of Numb-interacting proteins in asymmetric cell division and neurogenesis

PLEASE ATTACH A BRIEF DESCRIPTION OF YOUR WORK, SUCH A THE RESEARCH GRANT SUMMARY(S) THAT EXPLAINS THE BIOHAZARDS USED. PROJECTS SUBMITTED WITHOUT A SUMMARY WILL NOT BE REVIEWED.

FUNDING AGENCY/AGENCIES CIHR

Names of all personnel working under Principal Investigators supervision in this location:
i) Zezhou Wang
ii) Elena Oshakhovitch
iii) Thanuara Dayarathna
iv) Chenjun Li
v) Shelly Sandiford
vi Karen Kennedy
vii Huaming Huang

DESCRIPTION MUST BE ATTACHED TO THIS FORM OR PROJECT WILL NOT BE REVIEWED

1.0 Microorganisms

1.1 Does your work involve the use of microorganisms or biological agents of plant or animal origin (including but not limited to viruses, prions, parasites, bacteria)? ☒ YES ☐ NO
If no, please proceed to Section 2.0

1.2 Please complete the table below:

Name of Biological agent(s)	Is it known to be a human pathogen? YES/NO	Is it known to be an animal pathogen? YES/NO	Is it known to be a zoonotic agent? YES/NO	Maximum quantity to be cultured at one time?
E. coli DH5α BL21	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	200 mL
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	

1.3 For above named organism(s) or biological agent(s) circle HC or CFIA Containment Level required. (1) 2 3

1.4 Source of microrganism(s) or biological agent(s)? Novagene

2.0 Cell Culture

2.1 Does your work involve the use of cell cultures? ☒ YES ☐ NO
If no, please proceed to Section 3.0

2.2 Please indicate the type of primary cells (ie. derived from fresh tissue) that will be grown in culture in the table below

Cell Type	Is this cell type used in your work?	Source of Primary Cell Culture Tissue
Human	☐ Yes ☒ No	
Rodent	☒ Yes ☐ No	mice spleen B/T cells
Non-human primate	☐ Yes ☒ No	
Other (specify)		

2.3 Please indicate the type of established cells that will be grown in culture in the table below

Cell Type	Is this cell type used in your work?	Specific cell line(s)	Supplier / Source
		BHK, Jurkat, 293 HEK, LC-2	
Human	☒ Yes ☐ No	Namalwa	ATCC
Rodent	☒ Yes ☐ No	A.10	ATCC
Non-human primate	☐ Yes ☒ No		
Other (specify)	☐ Yes ☒ No		

2.4 For above named cell type(s) circle HC or CFIA containment level required 1 2 3

DESCRIPTION MUST BE ATTACHED TO THIS FORM OR PROJECT WILL NOT BE REVIEWED

3.0 Use of Human Source Materials

3.1 Does your work involve the use of human source materials? ☐ YES ☒ NO
If no, please proceed to Section 4.0

3.2 Indicate if the following will be used in the laboratory

- Human blood (whole) or other bodily fluids ☐ YES ☐ NO If YES, Specify _____
- Human blood (fraction) or other bodily fluids ☐ YES ☐ NO If YES, Specify _____
- Human organs (unpreserved) ☐ YES ☐ NO If YES, Specify _____
- Human tissues (unpreserved) ☐ YES ☐ NO If YES, Specify _____

3.3 Is human source known to be infected with and infectious agent ☐ YES ☐ NO
If YES , please name infectious agent _____

3.4 For above named materials circle HC or CFIA containment level required. 1 2 3

4.0 Genetically Modified Organisms and Cell lines

4.1 Will genetic modifications be made to the microorganisms, biological agents or cells described in Sections 1.0 and 2.0 ? ☑ YES ☐ NO
If no, please proceed to Section 5.0

4.2 Will genetic sequences from the following be involved:

- HIV ☐ YES ☒ NO
  if YES specify_____
- HTLV 1 or 2 or genes from any CDC class 1 pathogens ☐ YES ☐ NO
  if YES specify_____
- Other human or animal pathogen and or their toxins ☐ YES ☒ NO
  if YES specify_____

4.3 Will intact genetic sequences be used from

- SV 40 Large T antigen ☐ YES ☐ NO If YES specify_____
- Known oncogenes ☐ YES ☒ NO If YES specify_____

4.4 Will a live vector(s) (viral or bacterial) be used for gene transduction ☒ YES ☐ NO
If YES name virus pMIG.

4.5 List specific vector(s) to be used pMV2, pGEX473, pRc/CMV, pCDNA3.1-hygro (see attached) ☑

4.6 Will virus be replication defective ☐ YES ☒ NO

4.7 Will virus be infectious to humans or animals ☐ YES ☑ NO

4.8 Will this be expected to increase the Containment Level required ☐ YES ☑ NO

5.0 Human Gene Therapy Trials

5.1 Will human clinical trials using the viral vector in 4.0 be conducted? ☐ YES ☒ NO
If no, please proceed to Section 6.0
If YES attach a full description of the make-up of the virus.

5.2 Will virus be able to replicate in the host? ☐ YES ☐ NO

5.3 How will the virus be administered? _____

5.4 Please give the Health Care Facility where the clinical trial will be conducted: _____

5.5 Has human ethics approval been obtained? ☐ YES ☐ NO

6.0 Animal Experiments

6.1 Will any of the agents listed be used in live animals? ☒ YES ☐ NO
If no, please proceed to section 7.0

6.2 Name of animal species to be used mice/rats

6.3 AUS protocol # 2004.058.06

6.4 If using murine cell lines, have they been tested for murine pathogens? ☑ YES ☐ NO

7.0 Use of Animal species with Zoonotic Hazards

7.1 Will any of the following animals or their organs, tissues, lavages or other bodily fluids including blood be used:

- Pound source dogs ☐ YES ☒ NO
- Pound source cats ☐ YES ☒ NO
- Sheep or goats ☐ YES ☒ NO
- Non- Human Primates ☐ YES ☒ NO If YES specify species _____
- Wild caught animals ☐ YES ☒ NO If YES specify species _____
  colony # _____

8.0 Biological Toxins

8.1 Will toxins of biological origin be used? ☐ YES ☒ NO
If no, please proceed to Section 9.0

8.2 If YES, please name the toxin _____

8.3 What is the LD_{50} (specify species) of the toxin _____

9.0 Import Requirements

9.1 Will the agent be imported? ☒ YES ☐ NO
If no, please proceed to Section 10.0
If yes, country of origin US (via Cedarlane Lab Ltd in Canada)

9.2 Has an Import Permit been obtained from HC for human pathogens? ☒ YES ☐ NO

9.3 Has an import permit been obtained from CFIA for animal pathogens? ☐ YES ☐ NO

9.4 Has the import permit been sent to OHS? ☐ YES ☐ NO
If yes, Permit # _____

10.0 Training Requirements for Personnel named on Form

All personnel named on the above form who will be using any of the above named agents are required to attend the following training courses given by OHS

- Biosafety
- Laboratory and Environmental/Waste Management Safety
- WHMIS

As the Principal Investigator, I have ensured that all of the personnel named on the form who will be using any of the biohazardous agents in Sections 1.0 to 9.0 have been trained.

SIGNATURE _____

11.0 Containment Levels

11.1 For the work described in sections 1.0 to 9.0, please circle the highest HC or CFIA Containment Level required. 1 (2) 3

11.2 Has the facility been certified by OHS for this level of containment? ☒ YES ☐ NO

11.3 If yes, please give the date and permit number: Summer 2007
BIO-UWO-0019

12.0 Approvals

UWO Biohazard Subcommittee

Signature S.M. Kelly Date 10 Oct. '07

Safety Officer for Institution where experiments will take place

Signature J Stanley Date Oct. 9/07

Safety Officer for University of Western Ontario (if different than above)

Signature _____ Date _____

* DESCRIPTION MUST BE ATTACHED TO THIS FORM OR PROJECT WILL NOT BE REVIEWED*