Modification Form for Permit BIO-LHRI-0047

Permit Holder: Andy Babwah

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

Additional Personnel
(Please list additional personnel here)

	Please stroke out any approved Biohazards to be removed below	Write additional Biohazards for approval below. *
Approved Microorganisms	E. coli (DH5 alpha), E.coli (Top 10), XL1-Blue super-competent cells	
Approved Cells	Human (established), rodent (established), nonhuman primate (established), Hek 293, HTR-8/Svneo, NDA-MB-231, MDA-MB-435S, MCF-10A, PC-3, PZ-HPV-7, JEG-3, ARIP, AR42J, COS-7	MOUSE MEF, B-ARRESTIN 1/2 KNOCK-OUT CELL LINES
Approved Use of Human Source Material	Human chorionic gonadotropin - purified	
Approved GMO	SV 40 Large T antigen, Adeno E1A gene in HEK 293 cells	
Approved use of Animals		
Approved Toxin(s)	Cholera toxin (C-08052 from Sigma Canada)	

* *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: Aug 29, 2007

Signature of Permit Holder: _____

BioSafety Officer(s): _____

Chair,Biohazards Subcommittee: _____

(83420)

They are 5 lines derived from mouse embryonic fibroblasts (MEFs). Two lines come from wild type animals and one from a beta-arrestin-1 knockout, one from a beta-arrestin-2 knockout and one from a beta-arrestin-1/2 double knockout animal. Beta-arrestins are small proetins expressed in just about all cell types. The lines are coming from Duke University, USA from the lab of Dr.Robert Lefkowitz. Hope this helps.

> > > >

> > > > Andy

B10-LHRI-0047

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 Andy Videsh Babwah
SIGNATURE _____ July 19, 2007
DEPARTMENT Obstetrics and Gynaecology
ADDRESS Victoria Research Laboratories, A4-140
PHONE NUMBER 519-685-8500 extension 55485
EMAIL ababwah@uwo.ca

Location of experimental work to be carried out: Building(s) Victoria Research Laboratories
Room(s) all 4th floor rooms
*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):
1. GnRH-RI activity during human placentation (CIHR)
2. Molecular and Functional analysis of nuclear membrane localized GnRH-RI (NSERC Discovery)
3. Systemic evaluation of assisted reproduction (CFI New Opportunities)
4. GnRH-regulated gene expression in the human placenta (Children's Health Research Institute)

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, NSERC, CFI, Children's Health Research Institute
Names of all personnel working under Principal Investigators supervision in this location:
i) Natasha Camuso
ii) Michelle Re
iii) Cindy Pape
iv) Macarena Pampillo
v) Caroline Kahiri
vi) Craig Cavanagh
vii) Adel Aziziyeh
viii) Timothy Li

* 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)? X YES ف 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 (DH5 alpha)	ف Yes X No	ف Yes X No	ف Yes X No	1 litre
E. coli (Top10)	ف Yes X No	ف Yes X No	ف Yes X No	1 litre
XL1-Blue super-competent cells	ف Yes X No	ف Yes X No	ف Yes X No	1 litre

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)?commercially available (Invitrogen, Stratagene)

2.0 Cell Culture

2.1 Does your work involve the use of cell cultures? XYES فNO
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	ف Yes X No	
Rodent	ف Yes X No	
Non-human primate	ف Yes X No	
Other (specify)	ف Yes X No	

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 wor	Specific cell line(s)	Supplier / Source
Human	X Yes ف No	HEK 293	ATCC (original supplier)
Human	X Yes ف No	HTR-8/Svneo	Dr Lala, UWO (Anatomy & Cell Biol)
Human	X Yes ف No	MDA-MB-231	ATCC (original supplier)
Human	X Yes ف No	MDA-MB-435S	ATCC (original supplier)
Human	X Yes ف No	MCF-10A	ATCC (original supplier)
Human	X Yes ف No	PC-3	ATCC (original supplier)
Human	X Yes ف No	PZ-HPV-7	ATCC (original supplier)
Human	X Yes ف No	JEG-3	Dr Yang, UWO (Ob&Gyn)
Rodent	X Yes ف No	ARIP	Dr Pin, UWO (Phys & Pharm)
Rodent	X Yes ف No	AR42J	Dr Pin, UWO (Phys & Pharm)
Non-human primate	X Yes ف No	COS-7	ATCC (original supplier)
Other (specify)	ف Yes X No		

2.4 For above named cell types(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? X YES ف NO
(human corionic gonadotropin – purified, tested for human pathogens (eg: HIV))
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 ف YES X NO If YES, Specify _____
- Human blood (fraction) or other bodily fluids ف YES X NO If YES, Specify _____
- Human organs (unpreserved) ف YES X NO If YES, Specify_____
- Human tissues (unpreserved) ف YES X NO If YES, Specify_____

3.3 Is human source known to be infected with and infectious agent ف YES X 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? X YES ف NO
If no, please proceed to Section 5.0

4.2 Will genetic sequences from the following be involved:

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

4.3 Will intact genetic sequences be used from

- SV 40 Large T antigen X YES ف NO If YES specify: present in COS-7 cells and HTR-8/Svneo cells
- Known oncogenes X YES ف NO If YES specify: Adeno E1A gene in HEK 293 cells

4.4 Will a live vector(s) (viral or bacterial) be used for gene transduction ف YES X NO
If YES name virus_____.

4.5 List specific vector(s) to be used:_____

4.6 Will virus be replication defective ف YES ف NO N/A

4.7 Will virus be infectious to humans or animals ف YES ف NO N/A

4.8 Will this be expected to increase the Containment Level required ف YES X NO

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

5.0 Human Gene Therapy Trials

5.1 Will human clinical trials using the viral vector in 4.0 be conducted? ف YES X 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? ف YES ف 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? ف YES ف NO

6.0 Animal Experiments

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

6.2 Name of animal species to be used_____

6.3 AUS protocol # _____

6.4 If using murine cell lines, have they been tested for murine pathogens? ف YES ف 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 ف YES X NO
- Pound source cats ف YES X NO
- Sheep or goats ف YES X NO
- Non- Human Primates ف YES X NO If YES specify species _____
- Wild caught animals ف YES X NO If YES specify species _____
  colony # _____

8.0 Biological Toxins

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

8.2 If YES, please name the toxin: Cholera toxin (C-8052 from Sigma Canada)

8.3 What is the LD50 (specify species) of the toxin: 250 ug/kg in mice

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

9.0 Import Requirements

9.1 Will the agent be imported? X YES ☐ NO
If no, please proceed to Section 10.0
If yes, country of origin: USA

9.2 Has an Import Permit been obtained from HC for human pathogens? X YES ☐ NO
Cholera toxin is ordered from a Canadian company (Sigma-Aldrich Canada). This supplier takes the responsibility for obtaining the import permit in this case.

9.3 Has an import permit been obtained from CFIA for animal pathogens? ☐ YES X NO
Cholera toxin is not classified as an animal pathogen

9.4 Has the import permit been sent to OHS? ☐ YES X NO
If yes, Permit # _____ Sigma-Aldrich Canada is still processing this 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 _____ July 17, 2007

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? X YES ☐ NO

11.3 If yes, please give the date and permit number:_____

12.0 Approvals

UWO Biohazard Subcommittee

Signature _____ Date Aug 7, 2007.

Safety Officer for Institution where experiments will take place

Signature _____ Date 25 Aug '07

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

Signature _____ Date Aug 28/07

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