

**THE UNIVERSITY OF WESTERN ONTARIO
 BIOLOGICAL AGENTS REGISTRY FORM
 Approved Biohazards Subcommittee: October 14, 2010
 Biosafety Website: www.uwo.ca/humanresources/biosafety/**

This form must be completed by each Principal Investigator holding a grant administered by the University of Western Ontario (UWO) or in charge of a laboratory/facility where the use of Level 1, 2 or 3 biological agents is described in the laboratory or animal work proposed. The form must also be completed if any work is proposed involving animals carrying zoonotic agents infectious to humans or involving plants, fungi, or insects that require Public Health Agency of Canada (PHAC) or Canadian Food Inspection Agency (CFIA) permits.

This form must be updated at least every 3 years or when there are changes to the biological agents being used.

Containment Levels will be established in accordance with Laboratory Biosafety Guidelines, 3rd edition, 2004, Public Health Agency of Canada (PHAC) 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, (OHS), (Support Services Building, Room 4190) for distribution to the Biohazards Subcommittee. For questions regarding this form, please contact the Biosafety Officer at extension 81135 or biosafety@uwo.ca. If there are changes to the information on this form (excluding grant title and funding agencies), contact Occupational Health and Safety for a modification form. See website: www.uwo.ca/humanresources/biosafety/

PRINCIPAL INVESTIGATOR	<u>Giles Santyr</u>
DEPARTMENT	<u>Robarts Research</u>
ADDRESS	<u>100 Perth Dr. London</u>
PHONE NUMBER	<u>519 663 5777 Ext. 24170</u>
EMERGENCY PHONE NUMBER(S)	<u>519 858 1342</u>
EMAIL	<u>gsantyr@imaging.robarts.ca</u>

Location of experimental work to be carried out: Building(s) RRI Room(s) 2241 B, E,C and 0203

*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 its being sent to the University of Western Ontario Biosafety Officer (See Section 15.0, Approvals).

FUNDING AGENCY/AGENCIES: CHIR,
 GRANT TITLE(S): Novel Micro-imaging Approaches for Murine Models of Obstructive Pulmonary Disease

List all personnel working under Principal Investigators supervision in this location:

<u>Name</u>	<u>UWO E-mail Address</u>	<u>Date of Biosafety Training</u>
<u>Matthew Fox</u>	<u>mfox4@uwo.ca</u>	<u>May 23, 2006</u>
<u>Mathieu Boudreau</u>	<u>mboudre6@uwo.ca</u>	<u>Sept., 17 2009</u>
<u>Marcus Couch</u>	<u>mcouch2@uwo.ca</u>	<u>May., 15 2009</u>
<u>Kundan Thind</u>	<u>kthind@uwo.ca</u>	<u>Sept., 17 2009</u>

--	--	--	--

Please explain the biological agents and/or biohazardous substances used and how they will be stored, used and disposed of. Projects without this description will not be reviewed.

Only surgically-prepared rats are used. Immediately following each experiment the euthanized rats are properly packaged and brought to the Robarts Research Institute barrier facility for disposal.
No biohazardous agents or substances are used.

Please include a one page research summary or teaching protocol.

The Research studies Titled as; Assessment of Lung Function and Structure in Anesthetised and Ventilated Rats Using Hyperpolarized Noble Gas Magnetic Resonance Imaging and Xenon-enhanced Computed Tomography

Research Purpose

The goal of these experiments is to be able to visualize the lung in a live animal using MR and CT imaging methods. We will develop imaging methods to visualize lung structure as well as regional lung function and quantities these differences in rats with induced respiratory diseases.

Expected Benefit

These studies will develop a non-invasive approach to determine regional lung function in rats. The long-term goal will be to investigate lung abnormalities using rats, which will lead to a better understanding of lung patho-physiology in various lung diseases like asthma and COPD. Treatments to these lung diseases can thus be developed.

1.0 Microorganisms

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

Do you use microorganisms that require a permit from the CFIA? YES NO

If YES, please give the name of the species. _____

What is the origin of the microorganism(s)? _____

Please describe the risk (if any) of escape and how this will be mitigated:

Please attach the CFIA permit.

Please describe any CFIA permit conditions:

1.2 Please complete the table below:

Name of Biological Agent(s)* (Be specific)	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? (in Litres)	Source/Supplier	PHAC or CFIA Containment Level
N/A	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No			<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
N/A	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No			<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
N/A	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No			<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
N/A	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No			<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3

*Please attach a Material Safety Data Sheet or equivalent from the supplier.

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 (i.e. derived from fresh tissue) that will be grown in culture:

Cell Type	Is this cell type used in your work?	Source of Primary Cell Culture Tissue	AUS Protocol Number
Human	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>		Not applicable
Rodent	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>		
Non-human primate	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>		
Other (specify)	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>		

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

Cell Type	Is this cell type used in your work?	Specific cell line(s)*	Containment Level of each cell line	Supplier / Source of cell line(s)
Human	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>			
Rodent	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>			
Non-human primate	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>			
Other (specify)	<input type="radio"/> Yes <input checked="" type="radio"/> <u>No</u>			

*Please attach a Material Safety Data Sheet or equivalent from the supplier. (For more information, see www.atcc.org)

2.4 For above named cell types(s) indicate PHAC or CFIA containment level required 1 2 2+ 3

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 in the table below the Human Source Material to be used.

Human Source Material	Source/Supplier /Company Name	Is Human Source Material Infected With An Infectious Agent? YES/UNKNOWN	Name of Infectious Agent (If applicable)	PHAC or CFIA Containment Level (Select one)
Human Blood (whole) or other Body Fluid		<input type="radio"/> Yes <input type="radio"/> Unknown		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
Human Blood (fraction) or other Body Fluid		<input type="radio"/> Yes <input type="radio"/> Unknown		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
Human Organs or Tissues (unpreserved)		<input type="radio"/> Yes <input type="radio"/> Unknown		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 2+ <input type="radio"/> 3
Human Organs or Tissues (preserved)		Not Applicable		Not Applicable

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 modification(s) involving plasmids be done? YES, complete table below NO

Bacteria Used for Cloning *	Plasmid(s) **	Source of Plasmid	Gene Transfected	Describe the change that results from transformation or tranfection

* Please attach a Material Data Sheet or equivalent if available.

** Please attach a plasmid map.

4.3 Will genetic modification(s) of bacteria and/or cells involving viral vectors be made?

YES, complete table below **NO**

Virus Used for Vector Construction	Vector(s) *	Source of Vector	Gene(s) Transduced	Describe the change that results from transduction

* Please attach a Material Safety Data Sheet or equivalent.

4.4 Will genetic sequences from the following be involved?

- ◆ HIV YES, please specify _____ **NO**
- ◆ HTLV 1 or 2 or genes from any Level 1 or Level 2 pathogens YES, specify _____ **NO**
- ◆ SV 40 Large T antigen YES **NO**
- ◆ E1A oncogene YES **NO**
- ◆ Known oncogenes YES, please specify _____ **NO**
- ◆ Other human or animal pathogen and or their toxins YES, please specify _____ **NO**

4.5 Will virus be replication defective? YES **NO**

4.6 Will virus be infectious to humans or animals? YES **NO**

4.7 Will this be expected to increase the containment level required? YES **NO**

5.0 Human Gene Therapy Trials

5.1 Will human clinical trials be conducted involving a biological agent? YES **NO**
(including but not limited to microorganisms, viruses, prions, parasites or pathogens of plant or animal origin)
If no, please proceed to Section 6.0

5.2 If YES, please specify which biological agent will be used: _____
Please attach a full description of the biological agent.

5.2 Will the biological agent be able to replicate in the host? YES **NO**

5.3 How will the biological agent 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, number: _____ **NO** PENDING

6.0 Animal Experiments

6.1 Will live animals be used? **YES** **NO** If no, please proceed to section 7.0

6.2 Name of animal species to be used ___ Sprague Dawley and Wistar rats

6.3 AUS protocol # _____ 2007-083 _____

6.4 Will any of the agents listed in section 4.0 be used in live animals YES, specify: _____ **NO**

6.5 Will the agent(s) be shed by the animal: YES **NO**, please justify:

7.0 Use of Animal species with Zoonotic Hazards

7.1 Will any animals with zoonotic hazards or their organs, tissues, lavages or other body fluids including blood be used (see list below)? YES No If no, please proceed to section 8.0

7.2 Will live animals be used? YES No

7.3 If yes, please specify the animal(s) used:

- | | | |
|-----------------------------|--|--|
| ◆ Pound source dogs | <input type="radio"/> YES | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Pound source cats | <input type="radio"/> YES | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Cattle, sheep or goats | <input type="radio"/> YES, please specify species _____ | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Non-human primates | <input type="radio"/> YES, please specify species _____ | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Wild caught animals | <input type="radio"/> YES, please specify species & colony # _____ | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Birds | <input type="radio"/> YES, please specify species _____ | <input checked="" type="radio"/> <u>NO</u> |
| ◆ Others (wild or domestic) | <input type="radio"/> YES, please specify _____ | <input checked="" type="radio"/> <u>NO</u> |

7.4 If no live animals are used, please specify the source of the specimens:

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(s) _____
Please attach information, such as a Material Safety Data Sheet, for the toxin(s) used.

8.3 What is the LD₅₀ (specify species) of the toxin _____

8.4 How much of the toxin is handled at one time*? _____

8.5 How much of the toxin is stored*? _____

8.6 Will any biological toxins be used in live animals? YES, Please provide details: _____ NO

*For information on biosecurity requirements, please see:

http://www.uwo.ca/humanresources/docandform/docs/healthandsafety/biosafety/Biosecurity_Requirements.pdf

9.0 Insects

9.1 Do you use insects? YES NO If no, please proceed to Section 10.0

9.2 If YES, please give the name of the species. _____

9.3 What is the origin of the insect? _____

9.4 What is the life stage of the insect? _____

9.5 What is your intention? Initiate and maintain colony, give location: _____
 "One-time" use, give location: _____

9.6 Please describe the risk (if any) of escape and how this will be mitigated:

