

**THE UNIVERSITY OF WESTERN ONTARIO  
 BIOHAZARDOUS AGENTS REGISTRY FORM  
 Approved Biohazards Subcommittee: March 27, 2009  
 Biosafety Website: [www.uwo.ca/humanresources/biosafety/](http://www.uwo.ca/humanresources/biosafety/)**

This form must be completed by each Principal Investigator holding a grant administered by the University of Western Ontario or in charge of a laboratory/facility where the use of Level 1, 2 or 3 biohazardous 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 also be updated at least every 3 years or when there are changes to the biohazards 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, 1<sup>st</sup> 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 Biohazard Subcommittee. For questions regarding this form, please contact the Biosafety Officer at extension 81135 or [biosafety@uwo.ca](mailto: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/](http://www.uwo.ca/humanresources/biosafety/)

PRINCIPAL INVESTIGATOR

SIGNATURE

DEPARTMENT

ADDRESS

PHONE NUMBER

EMERGENCY PHONE NUMBER(S)

EMAIL

WANKEY WAN  
*[Signature]*  
Chemical & Biochemical Engineering  
TEB 433 (office)  
X 88440  
519-870-8219 (cell)  
wkwan@eng.uwo.ca

Location of experimental work to be carried out: Building(s) TEB Room(s) 313, 420, 424

\*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 12.0, Approvals).

FUNDING AGENCY/AGENCIES: NSERC, OCE

GRANT TITLE(S): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PLEASE ATTACH A BRIEF DESCRIPTION OF YOUR WORK THAT EXPLAINS THE BIOHAZARDS USED AND HOW THEY WILL BE USED. PROJECTS SUBMITTED WITHOUT A SUMMARY WILL NOT BE REVIEWED.**

Names of all personnel working under Principal Investigators supervision in this location:

Darcy Small \_\_\_\_\_  
Xinsheng Li \_\_\_\_\_  
Jordan DeMello \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## 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

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)*	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
<i>Acetobacter xylinum</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No	2 L.	ATCC	<input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
<i>Chlorella vulgaris</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="radio"/> Yes <input checked="" type="radio"/> No	5 L	Carolina Biological Supply	<input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
	<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"/> 3
	<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"/> 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 in the table below

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 type="radio"/> No		Not applicable
Rodent	<input type="radio"/> Yes <input type="radio"/> No		
Non-human primate	<input type="radio"/> Yes <input type="radio"/> No		
Other (specify)	<input type="radio"/> Yes <input type="radio"/> No		

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

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
Human	<input type="radio"/> Yes <input type="radio"/> No		
Rodent	<input type="radio"/> Yes <input type="radio"/> No		
Non-human primate	<input type="radio"/> Yes <input type="radio"/> No		
Other (specify)	<input type="radio"/> Yes <input type="radio"/> No		

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

2.4 For above named cell type(s) indicate PHAC or CFIA containment level required  1  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 Known to Be Infected With An Infectious Agent? YES/NO	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"/> No		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
Human Blood (fraction) or other Body Fluid		<input type="radio"/> Yes <input type="radio"/> No		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
Human Organs or Tissues (unpreserved)		<input type="radio"/> Yes <input type="radio"/> No		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
Human Organs or Tissues (preserved)		<input type="radio"/> Yes <input type="radio"/> No		<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 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 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

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

4.3 Will genetic modification(s) involving viral vectors be done?  YES, complete table below  NO

Virus Used for Transduction *	Vector(s) *	Source of Vector	Gene Transfected	Describe the change that results

\* 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 using the viral vector in 4.0?  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, 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 \_\_\_\_\_

6.3 AUS protocol # \_\_\_\_\_

6.4 Will any of the agents listed be used in live animals  YES, specify: \_\_\_\_\_  NO



**10.0 Plants Requiring CFIA Permits**

10.1 Do you use plants that require a permit from the CFIA?  YES  NO  
If no, please proceed to Section 11.0

10.2 If YES, please give the name of the species. \_\_\_\_\_

10.3 What is the origin of the plant? \_\_\_\_\_

10.4 What is the form of the plant (seed, seedling, plant, tree...)? \_\_\_\_\_

10.5 What is your intention?  Grow and maintain a crop  "One-time" use

10.6 Do you do any modifications to the plant?  YES  NO  
If yes, please describe: \_\_\_\_\_  
\_\_\_\_\_

10.7 Please describe the risk (if any) of loss of the material from the lab and how this will be mitigated:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10.8 Is the CFIA permit attached?  YES  NO

10.9 Please describe any CFIA permit conditions:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**11.0 Import Requirements**

11.1 Will any of the above agents be imported?  YES, please give country of origin USA  
If no, please proceed to Section 10.0  NO

11.2 Has an Import Permit been obtained from HC for human pathogens?  YES  NO N/A.

11.3 Has an import permit been obtained from CFIA for animal or plant pathogens?  YES  NO N/A.

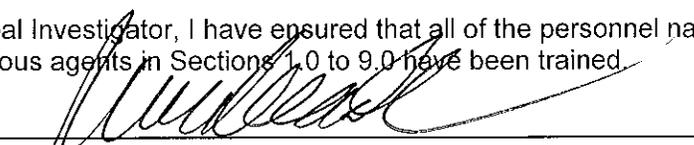
11.4 Has the import permit been sent to OHS?  YES, please provide permit # \_\_\_\_\_  NO N/A.

**12.0 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 (Western or equivalent)
- ◆ Employee Health and Safety Orientation

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 

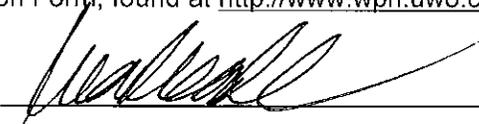
**13.0 Containment Levels**

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

13.2 Has the facility been certified by OHS for this level of containment?  
 YES, permit # if on-campus \_\_\_\_\_  
 NO, please certify  
 NOT REQUIRED for Level 1 containment

**14.0 Procedures to be Followed**

14.1 As the Principal Investigator, I will ensure that this project will follow the Western Biosafety Guidelines and Procedures Manual for Containment Level 1 & 2 Laboratories (and the Level 3 Facilities Manual for Level 3 projects). I will ensure that UWO faculty, staff and students working in my laboratory have an up-to-date Hazard Communication Form, found at <http://www.wph.uwo.ca/>

SIGNATURE  Date: May 5, 2009

**15.0 Approvals**

UWO Biohazard Subcommittee: SIGNATURE: \_\_\_\_\_  
Date: \_\_\_\_\_

Safety Officer for Institution where experiments will take place: SIGNATURE: \_\_\_\_\_  
Date: \_\_\_\_\_

Safety Officer for University of Western Ontario (if different from above): SIGNATURE: \_\_\_\_\_  
Date: \_\_\_\_\_

Approval Number: \_\_\_\_\_ Expiry Date (3 years from Approval): \_\_\_\_\_

Special Conditions of Approval:

Hi Jennifer, I have outlined the related projects that are going in our lab below. Please note that microalgae is classified as plant and not bacteria and therefore is not regarding as having any potential biohazard. Let me know if you have any further question. Thanks, Wan

#### Bacterial cellulose production

Bacterial cellulose is produced by microbial fermentation using the bacterium *Acetobactor xylinum* in a bioreactor. This done in static, shaken and agitated cultures. Upon completion of reaction, the product is treated with sodium hydroxide and purified and used as starting material for further research.

#### Microalgae culture

The microalgae *Chlorella vulgaris* is cultured for biomass production. The kinetics of the biomass production process is studied. The biomass produced is characterized for further processing into biofuels and recovery of natural antioxidants and proteins. Data collected is for further microalgae to biofuels process development.

Dr. W.K. Wan

Graduate Program in Biomedical Engineering  
Department of Chemical and Biochemical Engineering  
University of Western Ontario  
London, Ontario N6A 5B9 Canada  
Email: [wkwan@eng.uwo.ca](mailto:wkwan@eng.uwo.ca)  
Phone: 519-661-2111 x88440  
Fax: 519-850-2308  
<http://www.eng.uwo.ca/research/biomed/Faculty.htm>  
<http://www.engga.uwo.ca/people/wwan/>



## Search Catalog

Select a Category

Go



Login

Search Options

[About](#) | [Cultures and Products](#) | [Science](#) | [Standards](#) | [Deposit Services](#) | [Custom Services](#) | [Product Use Policy](#)

[ATCC Advanced Catalog Search](#) » [Product Details](#)

## Product Description

Before submitting an order you will be asked to read and accept the terms and conditions of ATCC's [Material Transfer Agreement](#) or, in certain cases, an MTA specified by the depositing institution.

Customers in Europe, Australia, Canada, China, Hong Kong, India, Japan, Korea, Macau, Mexico, New Zealand, Singapore, and Taiwan, R.O.C. must contact a [local distributor](#) for pricing information and to place an order for ATCC cultures and products.

[Print this Page](#)

### Bacteria

<b>ATCC® Number:</b>	<b>10245™</b>	<a href="#">Order this Item</a>	<b>Price:</b>	<b>\$240.00</b>
<b>Organism:</b>	<i>Gluconacetobacter xylinus</i> (Brown) Yamada et al. deposited as <i>Acetobacter xylinum</i> (Brown) Bergey et al.			
<b>Designations:</b>	[NCIB 8034, NRC 6018]			
<b>Depositor:</b>	L Stewart	<b>History:</b>	ATCC <<--L Stewart<<--R.H. Vaughn	
<b><i>Biosafety Level:</i></b>	1	<b>Shipped:</b>	freeze-dried	
<b>Growth Conditions:</b>	<a href="#">ATCC medium 1</a> : Mannitol agar <b>Temperature:</b> 26.0°C			
<b>Permits/Forms:</b>	In addition to the <a href="#">MTA</a> mentioned above, other <a href="#">ATCC and/or regulatory permits</a> may be required for the transfer of this ATCC material. Anyone purchasing ATCC material is ultimately responsible for obtaining the permits. Please <a href="#">click here</a> for information regarding the specific requirements for shipment to your location.			

### [Related Products](#)

<b>Applications:</b>	produces provitamin C 2-keto-L-gulonic acid [ <a href="#">2741</a> ] produces 2-keto-L-gulonic acid by enzymatic conversion of sorbitol [ <a href="#">2741</a> ]
<b>References:</b>	2741: Motizuki K, et al. Method for producing 2-keto-L-gulonic acid. US Patent 3,234,105 dated Feb 8 1966

[Return to Top](#)

### [Notices and Disclaimers](#)

ATCC products are intended for laboratory research purposes only, unless noted otherwise. They are not intended for use in humans.

While ATCC uses reasonable efforts to include accurate and up-to-date information on this site, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate.

All prices are listed in U.S. dollars and are subject to change without notice. A discount off the current list price will be applied to most cultures for nonprofit institutions in the United States. Cultures that are ordered as test tubes or flasks will carry an additional laboratory fee. Fees for permits, shipping, and handling may apply.

[Back to my Search](#)

Customize your ATCC Web experience: [Login](#) ►

[Home](#) | [Site Map](#) | [FAQ](#) | [Privacy Policy](#) | [Careers](#) | [Contact Us](#)

© 2008 ATCC. All Rights Reserved