

**THE UNIVERSITY OF WESTERN ONTARIO  
 BIOLOGICAL AGENTS REGISTRY FORM  
 Approved Biohazards Subcommittee: October 14, 2010  
 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 (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, 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 Biohazards 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	<u>Peter J Ferguson</u>
DEPARTMENT	<u>Oncology</u>
ADDRESS	<u>Cancer Research Labs, LRCP-VRL, LHSC-Vic</u>
PHONE NUMBER	<u>53602</u>
EMERGENCY PHONE NUMBER(S)	<u>(H) 519-453-2218; (C) 519-630-1546</u>
EMAIL	<u>Peter.Ferguson@uwo.ca</u>

Location of experimental work to be carried out: Building(s) LRCP, VRL Room(s) A4-114, A4-910  
 (adenovirus), A4-822 (lentivirus), A7-132 (animals)\_\_\_\_\_

\*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: Medical Oncology Research Fund  
 GRANT TITLE(S): Molecular Basis of the Anticancer Activity of the Antidiabetic Drug Metformin; Investigation of Antisense Oligonucleotides to Sensitize Tumour Cells to Anticancer Chemotherapy Drugs

List all personnel working under Principal Investigator's supervision in this location:

<u>Name</u>	<u>UWO E-mail Address</u>	<u>Date of Biosafety Training</u>
<u>Rene Figueredo</u>	<u>rfo1975@yahoo.com</u>	<u>July 5, 2011</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.**

Biological Agent: Human Cancer Cell Lines (list attached)

Usage – live cells maintained in cell culture incubator, and handled in laminar flow BSC

- Cells may also be inoculated into mice, which will be undertaken in a BSC in a dedicated Level II animal-handling facility in the VRL vivarium.

Storage - Stored in freezer bank (-80 and -150 freezers)

Disposal – liquids that contain cells are bleached and flushed down drain

- Plasticware that has been in contact with cells is disposed into biohazard waste boxes (lined with a yellow bag) and disposed by licensed waste carrier, SteriCycle (autoclaved and/or incinerated before disposing in land-fill)

Biological Agent: Lentivirus

Usage – virus handled in Level II+ biohazard facility, in a laminar flow BSC, and maintained in a dedicated cell culture incubator. These are maintained in a locked, limited-access cell culture room. Users must wear dedicated PPE, and all material that contacts the virus must be thoroughly decontaminated prior to disposal or transfer to another facility.

Storage – virus kept in culture medium in -80 freezer

Disposal – virus in liquid is thoroughly bleached prior to flushing down a drain

- Plasticware that has contacted virus is thoroughly bleached, then autoclaved immediately prior to disposal in a biohazardous waste container.

Biological Agent: Adenovirus

Usage – virus handled in Level II biohazard facility, in a laminar flow BSC, and maintained in a dedicated cell culture incubator. Users must wear PPE, and all material that contacts the virus must be thoroughly decontaminated prior to disposal or transfer to another facility.

Storage – virus kept in culture medium in -80 freezer

Disposal – virus in liquid is thoroughly bleached prior to flushing down a drain

- Plasticware that has contacted virus is bleached, then autoclaved immediately prior to disposal in a biohazardous waste container.

Possible Biological Agent: Mycoplasma

Many cultured cell lines carry mycoplasma, and so it is assumed that any cell line could be carrying this bacteria. The methodology described above for handling of cultured cell lines provides the appropriate methodology for usage, storage, and disposal of this organism should a cell line happen to be contaminated.

Please include a one page research summary or teaching protocol.

**PLEASE NOTE THAT THE FOLLOWING INFORMATION IS STRICTLY CONFIDENTIAL**

The incidence of prostate cancer could be greatly reduced with a convenient and safe preventive intervention. The overall goal of this research program is to generate a dietary supplement that will prevent the development of prostate cancer. Our laboratory has demonstrated *in vivo* and *in vitro* that isolates from cranberry extracts, enriched in flavonoids and other polyphenols, kill cancer cells. In particular, treatment with cranberry extracts inhibited the growth of human prostate tumour explants in mice. This specific project will determine if cranberry extracts can prevent the early steps of oncogenic progression of non-cancerous human prostate cells. Normal, primary prostate cells, immortalized by a single genetic change [transfection with human telomerase catalytic subunit (hTERT) to mimic the obligatory constitutive telomerase expression found in cancer cells] can spontaneously undergo "epithelial to mesenchymal transition" (EMT), an important step in malignant transformation. As a collaborative team of scientists, a pharmacologist, and a urology surgeon, we will establish this model system and study the effect of cranberry on the process of malignant progression. We **hypothesize** that cranberry extracts Fr6 and PACs can prevent EMT of prostate epithelial cells and inhibit malignant activities of cells that acquire the mesenchymal phenotype.

**Objectives and Methods:** (1) *To generate a stock of flavonoid-rich cranberry extracts*, using established chromatographic procedures. (2) *To generate primary and immortalized cultures of prostate epithelial cells*. Normal prostate cells, propagated from surgical specimens, will be immortalized by transfection with hTERT and cultured. (3) *To determine if the presence of cranberry extracts can prevent malignant progression (EMT) of primary prostate cultures*. Markers of mesenchymal cells will be assayed (increased p16 and N-cadherin, decreased E-cadherin). (4) *To determine if cranberry extracts can inhibit malignant properties of transformed prostate cells*, namely migration and invasion of the mesenchymal cells generated above in non-cranberry-treated cultures.

Metformin is currently being investigated for its potential antineoplastic activity. This research has been spurred in part by the observation that patients receiving metformin for control of diabetes have lower rates of malignancy than diabetic patients on insulin or sulfonylureas. Many researchers have also observed growth inhibition *in vitro* in many cell lines with metformin. The anti-neoplastic mechanism of action of metformin is not well understood. Putative mechanisms include changes in insulin and insulin-like receptor signaling, indirect inhibition of mammalian target of rapamycin, inhibition of her-2 neu signaling and antiangiogenic effects. The principal target of metformin is likely to be adenosine monophosphate kinase, a regulator of cell metabolism. We therefore seek to study the potential mechanism of anti-neoplastic action of metformin, looking for molecular predictors of activity *in vitro*. We will test our hypothesis using the cell lines A549b and SK-MEL-5 in which we see the most promising anti-tumour activity.

**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. lentivirus, adenovirus

What is the origin of the microorganism(s)? obtained from commercial sources

Please describe the risk (if any) of escape and how this will be mitigated: If handled extremely carelessly, a virus particles could become airborne. This risk is mitigated by handling inside of a laminar flow BSC.

Liquids and plasticware that contact virus particles are thoroughly bleached and/or washed with 70% ethanol, and then autoclaved to prevent any live virus from becoming airborne or able to spread by contact.

Please attach the CFIA permit.

Please describe any CFIA permit conditions:

The lentivirus was obtained from a Canadian supplier, and therefore no CFIA permit was required to obtain it. This virus is also designed to be non-replicative in human cells, and therefore is not a pathogen unless genetically engineered to do so. A copy of the permit to import adenovirus is enclosed, as well as a copy of the Level II certification.

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
Lentivirus	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.001	Applied Biological Materials Inc	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 2+ <input type="checkbox"/> 3
Adenovirus	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.010	Univ. of California	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 2+ <input type="checkbox"/> 3
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 2+ <input type="checkbox"/> 3
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 2+ <input type="checkbox"/> 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	prostate	Not applicable
Rodent	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Non-human primate	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Other (specify)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

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 checked="" type="radio"/> Yes <input type="radio"/> No	list attached	all handled	ATCC
Rodent	<input checked="" type="radio"/> Yes <input type="radio"/> No	list attached	Level 2	ATCC
Non-human primate	<input type="radio"/> Yes <input checked="" type="radio"/> No			
Other (specify)	<input type="radio"/> Yes <input checked="" 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))

The information from ATCC does not provide any information that indicates whether the cell lines are considered level I, II or otherwise. ATCC will also not provide any information as to whether the cell lines contain mycoplasma, or if they express virus particles. For these reasons, all cell lines are handled under the assumption that they are Level II and may contain mycoplasma and may express virus particles. The ATCC information sheets do not contain any information that suggests how the cell lines should be handled safely, or what to do should any accidentally be ingested or exposed to skin or eyes. Because the ATCC information sheets are thus considered to be non-informative for the purposes of safe handling, and because this laboratory handles at least 58 different cell lines, the ATCC information sheets are not attached to this form.

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



6.5 Will the agent(s) be shed by the animal:  YES  NO, please justify:  
\_\_\_\_\_The agent will not be shed because it will not be administered to the animals.

**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  YES  NO
- ◆ Pound source cats  YES  NO
- ◆ Cattle, sheep or goats  YES, please specify species \_\_\_\_\_  NO
- ◆ Non-human primates  YES, please specify species \_\_\_\_\_  NO
- ◆ Wild caught animals  YES, please specify species & colony # \_\_\_\_\_  NO
- ◆ Birds  YES, please specify species \_\_\_\_\_  NO
- ◆ Others (wild or domestic)  YES, please specify \_\_\_\_\_  NO

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 LD<sub>50</sub> (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](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:  
\_\_\_\_\_  
\_\_\_\_\_

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



**13.0 Containment Levels**

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

13.2 Has the facility been certified by OHS for this level of containment?  
 YES, date of most recent biosafety inspection: December 10, 2010  
 NO, please certify  
 NOT REQUIRED for Level 1 containment

*✓ Dave Ryden*

13.3 Please indicate permit number (not applicable for first time applicants): R-06-000599

**14.0 Procedures to be Followed**

14.1 Please describe additional risk reduction measures will be taken beyond containment level 1, 2, 2+ or 3 measures, that are unique to this agent.

N/A

14.2 Please outline what will be done if there is an exposure to the biological agents listed, such as a needlestick injury or an accidental splash:

Staff have been trained to do the following: get immediate medical attention at either LHSC Occupational Health and Safety or Victoria Emergency, visit Occ Health as soon as possible, and file an LHSC incident report. UWO employees are asked to visit UWO Occ Health to file an incident report.

14.3 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 *Pete Byrum* Date: *July 6, 2011*

**15.0 Approvals**

1) UWO Biohazards Subcommittee: SIGNATURE: \_\_\_\_\_  
Date: \_\_\_\_\_

2) Safety Officer for the University of Western Ontario  
SIGNATURE: \_\_\_\_\_  
Date: \_\_\_\_\_

3) Safety Officer for Institution where experiments will take place (if not UWO):  
SIGNATURE: *Dave Ryden*  
Date: *July 19, 2011*

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

Special Conditions of Approval:



# E-mail

On 9/27/2011 5:53 PM, Peter Ferguson wrote:

Thank you, Jennifer. I have attached a gif file of the lentivirus map. If you double-click on it, it should open with Internet Explorer, or else you can reply to open with that if it asks you. It has a lot of faint colours in it, so I did not want to scan a print of it, because I don't think it would scan well. I lifted this image from the ABM website, the company that supplied it, so no choice in the colours.

Thanks for looking after the E1A and SV40 check. I was forgetting that E1A is in the adeno that I use. As for SV40, I see that the hTERT-lentivirus vector has an SV40 promoter in it, but I do not see an ORF for the large T-antigen itself, which is what the BARF asks. If this is expressed, please let me know, since I need to know that for the purposes of my experiment, as it could affect cell behaviour. Perhaps the committee member that brought this up could double-check on that and get back to me if it is in fact true.

Thanks again. See you at our next meeting.

Cheers,  
Pete



Applied Biological Materials Inc.  
Telephone: 1-866-757-2414  
Email: info@abmgood.com  
Website: www.abmGood.com

**pLenti-III-EF1a-h-TERT**

Cat. No.	Quantity	Titer	Accession Number
LV028153	1ug		NM_001193376
<b>Species</b>	Human		
<b>Accession Number</b>	NM_001193376		
<b>Vector</b>	pLenti-III-EF1alpha		
<b>Vector Size</b>	8751bp		
<b>Insert Size</b>	3210bp		
<b>Tags</b>	N.A		
<b>Selection Marker</b>	Kanamycin		
<b>Format</b>	Plasmid		
<b>Appearance</b>	Clear Liquid		
<b>Storage Buffer</b>	10mM Tris-HCl, 1mM EDTA, pH8.0		
<b>Storage</b>	1 year when stored at -20°C or lower in a non-frost free freezer		

*Caution: This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information (1-866-757-2414).*

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SANTA BARBARA • SANTA CRUZ

MOLECULAR BIOLOGY INSTITUTE  
611 Charles E. Young Drive East  
Box 951570  
Los Angeles, California 90095-1570Arnold Berk  
Paul D. Boyer Hall -Molecular Biology Institute  
University of California  
Los Angeles, CA 90095-1570

September 14, 2009

Dr. Peter J. Ferguson  
Cancer Research Laboratories  
London Regional Cancer Program – LHSC  
790 Commissioners Road East  
London, ON N6A 4L6  
CANADA

Dear Dr. Ferguson,

Please find enclosed the following:

➤ dl1520 virus stock – 100  $\mu$ l - titer:  $4 \times 10^9$  pfu/ml

Thank you,

Carol Eng  
Specialist  
310-825-9370  
carole@microbio.ucla.edu

In -80, 72 G8 (16-9-09)



Public Health Agency of Canada  
Centre for Emergency Preparedness and Response

Agence de la santé publique du Canada  
Centre de mesures et d'interventions d'urgence

Permit no.-Permis no.

Permit to import human pathogen(s)

Permis d'importation d'agent(s)  
anthropopathogène(s)

P- 17139

Under the authority of the Human Pathogens Importation  
Regulations.

Sous le régime du Règlement sur l'importation des agents  
anthropopathogènes.

Importer-Name, address and postal code - Importateur-Nom, adresse et code postal

Facsimile-Télécopieur

Telephone no.- No. de  
téléphone

London Health Sciences Centre  
London Regional Cancer Program  
790 Commissioners Road East  
London, ON N6A 4L6

519-685-8616

519-685-8600  
ext: 53602#

Attn: Dr. Peter J. Ferguson

Supplier-Name and address - Fournisseur-Nom et adresse

Name(s) of Port(s) of Entry- To Clear Customs at Port(s) of entry  
Nom(s) de(s) point(s) d'entrée -Dédouanement au(x) point(s) d'entrée

University of California  
359 Paul Boyer Hall - MBI  
Los Angeles, CA 90095-1570

Various ports

Description of Pathogen(s)-For the Importation of- Description de(s) agent(s) anthropopathogène(s)-Pour l'importation de

Human adenovirus E1B-deletion mutant dl1520 (ONYX-015).

On the following terms and conditions as marked:-Selon les conditions indiquées:

- |   |   |
|---|---|
| <p>1. Work involving any of the imported material shall be limited to in vitro laboratory studies.</p> <p>2. Domestic animals, including poultry, cattle, sheep, swine and horses, shall not be directly or indirectly exposed to infection by any of the imported material.</p> <p>3. All animals exposed to infection by any of the imported material shall be so exposed and held only in isolated insect-and rodent-proof facilities.</p> <p>4. All equipment, animal pens, cages, bedding, waste and other articles under the importer's control, that come in direct or indirect contact with any of the imported material, shall be sterilized by autoclaving or incinerated.</p> <p>5. Packaging materials, containers and all unused portions of the imported material shall be sterilized by autoclaving or incinerated.</p> <p>6. No work on the imported material shall be done, except work conducted or directed by the importer in the facilities described in the application for this permit. NO HUMAN PATHOGEN BELONGING TO RISK GROUP 3 OR 4 MAY BE REMOVED TO ANOTHER LOCATION, OR TRANSFERRED INTO THE POSSESSION OF A PERSON OTHER THAN THE IMPORTER, WITHOUT THE PERMISSION OF THE DIRECTOR.</p> <p>7. On completion of the importer's work involving the imported human pathogen, the pathogen and all its derivatives shall be destroyed.</p> <p>8. Primary isolation, identification and/or manipulation may be done in level 2 containment (physical requirements) using containment level 3 operational requirements.</p> <p>9. NO IMPORTED MATERIAL MAY BE REMOVED TO ANOTHER LOCATION, OR TRANSFERRED INTO THE POSSESSION OF A PERSON OTHER THAN THE IMPORTER, WITHOUT THE PERMISSION OF THE DIRECTOR.</p> <p>10. The Director must approve all new work with the imported material involving construction of recombinants that requires an increase of containment from level 2.</p> <p>11. No culturing of Risk Group 3 or 4 pathogens shall be done.</p> | <p><input checked="" type="checkbox"/> Les travaux auxquels la matière importée est destinée doivent se limiter à des études de laboratoire in vitro.</p> <p><input checked="" type="checkbox"/> Les animaux domestiques, y compris les volailles, bovins, ovins, porcins et chevaux, ne doivent pas être exposés, directement ou indirectement, à l'infection par la matière importée.</p> <p><input type="checkbox"/> Les animaux exposés à l'infection par la matière importée doivent y être exposés et être gardés uniquement dans des installations isolées à l'abri des insectes et des rongeurs.</p> <p><input checked="" type="checkbox"/> L'équipement, les enclos pour animaux, les cages, les litières, les déchets et tout autre article sous la responsabilité de l'importateur qui viennent en contact direct ou indirect avec la matière importée doivent être stérilisés par autoclavage ou incinérés.</p> <p><input type="checkbox"/> Le matériel d'emballage, les récipients et toute partie inutilisée de la matière importée doivent être stérilisés par autoclavage ou incinérés.</p> <p><input checked="" type="checkbox"/> La matière importée ne peut servir qu'aux travaux effectués ou dirigés par l'importateur dans les installations décrites dans la demande de permis. AUCUNE AGENT ANTHROPOPATHOGENE DU GROUPE DE RISQUE 3 OU 4 NE PEUT ÊTRE TRANSPORTÉ, SANS LA PERMISSION DU DIRECTEUR, VERS UN AUTRE LIEU OU ÊTRE MIS EN LA POSSESSION D'UNE AUTRE PERSONNE QUE L'IMPORTATEUR.</p> <p><input checked="" type="checkbox"/> Au terme des travaux de l'importateur auxquels a servi l'agent anthropopathogène importé, celui-ci et tous ses dérivés doivent être détruits.</p> <p><input type="checkbox"/> On peut accomplir l'isolement, l'identification primaire, et/ou la manipulation au niveau de confinement 2 (exigences physiques) en utilisant les exigences opérationnelles de niveau de confinement 3.</p> <p><input checked="" type="checkbox"/> AUCUNE MATIÈRE IMPORTÉE NE PEUT ÊTRE TRANSPORTÉE, SANS LA PERMISSION DU DIRECTEUR, VERS UN AUTRE LIEU OU ÊTRE MISE EN LA POSSESSION D'UNE AUTRE PERSONNE QUE L'IMPORTATEUR.</p> <p><input checked="" type="checkbox"/> Tous nouveaux travaux de manipulation génétique (recombiné) avec la matière importée qui demandera que le niveau 2 de confinement soit augmenté exigera l'approbation du Directeur.</p> <p><input type="checkbox"/> Aucune culture d'agent anthropopathogène du Groupe de risque 3 ou 4 ne sera entreprise.</p> |
|---|---|

12. This permit is valid only for:  
Le présent permis n'est valide que pour:

a) a single entry into Canada or  
une seule entrée au Canada ou

b) importations at intervals of  
les importations effectuées à intervalles de

during the period beginning on  
au cours de la période commençant le

and ending on  
et se terminant le

SEPTEMBER 03, 2009

Authorization-Signature of Director  
Autorisation-Signature du Directeur

Marianne Heisz

Date SEPTEMBER 03, 2009

Note: Transporting and otherwise dealing with imported material are subject to federal, provincial and municipal laws (if any), to the extent that those laws apply in respect of that material.

Note: Les opérations relatives à la matière importée, y compris le transport, sont assujetties aux lois fédérales, provinciales et aux règlements municipaux applicables.

Canada



Office of Biohazard Containment and Safety  
Science Branch, CFIA  
59 Camelot Drive, Ottawa, Ontario K1A 0Y9  
Tel: (613) 221-7068 Fax: (613) 228-6129  
Email: ImportZoopath@inspection.gc.ca

Bureau du confinement des biorisques et sécurité  
Direction générale des sciences, ACIA  
59 promenade Camelot, Ottawa, Ontario K1A 0Y9  
Tél: (613) 221-7068 Téléc: (613) 228-6129  
Courriel: ImportZoopath@inspection.gc.ca

October 20<sup>th</sup>, 2009

Ms. Shamila Survery / Mr. Michael Decosimo  
Cedarlane Laboratories Ltd  
4410 Paletta Court  
Burlington, Ontario L7L 5R2

By Facsimile: (289) 288-0020

**SUBJECT: Importation of *Escherichia coli* strains**

Dear Ms. Survery / Mr. Decosimo:

Our office received your query about the importation of *Escherichia coli* from the American Type Culture Collection (ATCC) located in Manassas, Virginia, United States. The following *Escherichia coli* strains are considered to be level 1 animal pathogens:

- |               |                    |           |                   |                |
|---------------|--------------------|-----------|-------------------|----------------|
| • 5K          | • CIE85            | • J52     | • MC4100 (MuLac)  | • U5/41        |
| • 58          | • DH1              | • J53     | • MG1655          | • W208         |
| • 58-161      | • DH10 GOLD        | • JC3272  | • MM294           | • W945         |
| • 679         | • DH10B            | • JC7661  | • MS101           | • W1485        |
| • 1532        | • DH5              | • JC9387  | • NC-7            | • W3104        |
| • AB284       | • DH5-alpha        | • JF1504  | • Nissle 1917     | • W3110        |
| • AB311       | • DP50             | • JF1508  | • One Shot STBL3  | • WA704        |
| • AB1157      | • DY145            | • JF1509  | • OP50            | • WP2          |
| • AB1206      | • DY380            | • JJ055   | • P678            | • X1854        |
| • AG1         | • E11              | • JM83    | • PA309           | • X2160T       |
| • B           | • EJ183            | • JM101   | • PK-5            | • X2541        |
| • BB4         | • EL250            | • JM109   | • PMC103          | • X2547T       |
| • BD792       | • EMG2             | • K12     | • PR13            | • XL1-BLUE     |
| • BL21        | • EPI 300          | • KC8     | • Rri             | • XL1-BLUE-MRF |
| • BL21 (DE3)  | • EZ10             | • KA802   | • RV308           | • XL0LR        |
| • BM25.8      | • FDA Seattle 1946 | • KAM32   | • S17-1λ -PIR     | • Y10          |
| • C           | • Fusion-Blue      | • KAM33   | • SCS1            | • Y1090 (1090) |
| • C-1a        | • H1443            | • KAM43   | • SMR10           | • YN2980       |
| • C-3000      | • HF4714           | • LE450   | • SOLR            | • W3110        |
| • C25         | • HB101            | • LE451   | • SuperchargeEZ10 | • WG1          |
| • C41 (DE3)   | • HS(PFAMP)R       | • LE452   | • SURE            | • WG439        |
| • C43 (DE3)   | • Hfr3000          | • MB408   | • TOP10           | • WG443        |
| • C600        | • Hfr3000 X74      | • MBX1928 | • TG1             | • WG445        |
| • Cavalli Hfr | • HMS174           | • MC1061  |                   |                |

The Office of Biohazard Containment and Safety (BCS) of the Canadian Food Inspection Agency (CFIA) only issues import permits for microorganisms that are pathogenic to animals, or parts of microorganisms that are pathogenic to animals. As the products listed above are not considered pathogenic to animals, the Office of BCS does not have any regulatory requirements for their importation.

Please note that other legislation may apply. You may wish to contact the Public Health Agency of Canada's (PHAC) Office of Laboratory Security at (613) 957-1779.

**Note:** Microorganisms pathogenic to animals and veterinary biologics require an import permit from the CFIA.

Sincerely,

Cinthia Labrie  
Head, Animal Pathogen Importation Program  
Office of Biohazard Containment & Safety

Cell Culture - Koropatnick Laboratory - London Regional Cancer Program, Cancer Research Laboratories - VRL  
Last updated June 29, 2011  
Cell Lines Used and/or Stored in the Laboratory

Human:

Anaplastic astrocytoma SF-268  
Breast MCF-7, MDA-MB-435, MDA-MB-231, MDA-MB-468, SK-BR-3  
Cervical epithelial HeLa  
Colon tumour HT-29, CaCo-2, HCT-15, HCT-116, SW620  
Epidermoid carcinoma A431  
Erythroleukemia K562  
Fibrosarcoma HT1080  
Foreskin fibroblast NIH3T3  
Gastric adenocarcinoma AGS, Hs746T, N87  
Glioma U87, A172, SF-295, SNB-19, U373MG  
Hepatoma Hep-G2  
Kidney, embryonic (non-tumour) 293T (E1A/E1B-transformed; T-antigen-expressing)  
Leukemia, promyelocytic HL-60  
Lung fibroblast WI-38  
Lymphoblastoid W1-L2  
Lymphoblastic leukemia U937  
Lymphoma, histiocytic U-937  
Mammary epithelial line 1001-8 (ATCC)  
Melanoma SK-MEL-5  
Muscle tumour BC<sub>3</sub>H1  
Non-small cell lung carcinoma A549, H226, H460, H520  
Osteosarcoma SaOS-2  
Ovarian carcinoma OV-90  
Pancreatic carcinoma PANC-1, Panc 02.03, Panc 03.27, Panc 10.05  
Prostate carcinoma DU145, LNCaP; (untransformed prostate epithelial HPEpiC)  
Small cell lung carcinoma DMS114, DMS153, H69, SHP-77  
Squamous cell carcinoma, gingival HN-5a (est. e Lawson in 1988)  
Squamous cell carcinoma, head and neck Cal27, Detroit562, FaDu, SCC9  
Testicular Leydig cell tumour line MA10  
Umbilical vein epithelial cell (HUVEC) (non-tumour)

Info on Cell Line(s)

Rodent:

Mouse kidney primary  
Mouse embryonic fibroblast (MEF)  
Mouse mammary tumour 2305  
Mouse melanoma B16 F10  
Chinese hamster ovary

Insect:

SF9

Bacteria:

Escherichia coli DH5-alpha and DH10-beta



MSDS'

## MATERIAL SAFETY DATA SHEET

MSDS FOR ANIMAL CELL CULTURES (Biosafety Level 1 or 2)

### MATERIAL SAFETY DATA SHEET

#### SECTION 1 - SUBSTANCE IDENTITY AND COMPANY INFORMATION

**Product Name:** Various Animal Cell Cultures at Biosafety Level 1 or 2  
**ATCC Catalog #:** Various

**COMPANY INFORMATION:** AMERICAN TYPE CULTURE COLLECTION  
PO BOX 1549  
MANASSAS, VA 20108

**FOR INFORMATION CALL:** 800-638-6597 or 703-365-2700  
**AFTER-HOURS CONTACT:** 703-365-2710  
**CHEMTREC EMERGENCY:** 800-424-9300 or 703-527-3887

#### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Either frozen or growing cells shipped in liquid cell culture medium (a mixture of components that may include, but is not limited to: inorganic salts, vitamins, amino acids, carbohydrates and other nutrients dissolved in water). Frozen Cultures may also contain a 5%-10% solution of Dimethyl sulfoxide as a cryoprotectant.

#### SECTION 3 - HAZARD IDENTIFICATION

**HMIS Rating:** Health: 0 Flammability: 0 Reactivity: 0  
**NFPA Rating:** Health: 0 Flammability: 0 Reactivity: 0

This substance is not hazardous as defined by OSHA 29CFR 1910.1200 however this product should be handled according to good lab practices, with proper personal protective equipment, proper engineering controls and within the parameters of the purchaser's safety program.

#### Health Hazards

##### For Biosafety Level 1 Cell Cultures

Handle as a potentially biohazardous material under at least Biosafety Level 1 containment.

This cell line is not known to cause disease in healthy adult humans. These cells have **NOT** been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when manipulating these cell lines.

See next page for Biosafety Level 2 cell cultures.



## MATERIAL SAFETY DATA SHEET

### For Biosafety Level 2 Cell Cultures

Handle as a potentially biohazardous material under at least Biosafety Level 2 containment.

These cell lines are associated with human disease, hazards include: percutaneous injury, ingestion, mucous membrane exposure (U.S. Government Publication **Biosafety in Microbiological and Biomedical Laboratories**). These cells have **NOT** been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when manipulating these cell lines.

### SECTION 4 -

### FIRST AID MEASURES

#### Report to your Safety Office and Seek Medical Attention as Soon as Possible

**Ingestion:** If person is unconscious seek emergency medical attention; never give anything by mouth to an unconscious person. If the person is conscious wash mouth out with copious amounts of water and call a physician then administer three cupfuls of water. Do not induce vomiting unless directed to do so by a physician.

**Inhalation:** If person is unconscious seek emergency medical attention, if person is conscious remove to fresh air and call a physician.

**Dermal exposure:** Immediately wash skin with copious amounts of water followed by washing with soap and copious amounts of water. Remove all contaminated clothing.

**Eye exposures:** Flush eyes with copious amounts of water for at least 15 minutes with eyelids separated and call a physician.

### SECTION 5 -

### FIRE FIGHTING MEASURES

**Flammability:** Data not available

**Suitable Extinguishing Media:** Water spray, carbon dioxide, dry chemical powder, Halon (where regulations permit), or appropriate foam.

**Protective Equipment:** Wear self-contained breathing apparatus and protective clothing to prevent inhalation, ingestion, skin and eye contact.

**Specific Hazard(s):** Responders should take into consideration the biohazard risk associated with responding to a fire in the area where the material may be stored or handled.



## MATERIAL SAFETY DATA SHEET

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Procedure(s) of Personal Precaution(s):** At a minimum use PPE listed in Section 8. Wear laboratory coat, gloves and eye protection. Avoid all contact.

#### Methods for Cleaning Up

**Patient/Victim:** Wash with soap and water. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Do not take clothing home.

**Equipment/Environment:** Allow aerosols to settle; wearing protective clothing, gently cover spill with paper towel and apply 1% sodium hypochlorite, starting at perimeter and working towards the center; allow sufficient contact time before clean up (30 min).

**Note:** The use of additional PPE may be necessary for cleaning solutions.

### SECTION 7 - HANDLING AND STORAGE

Handle and store according to instructions on product information sheet and label.

Special Requirements:

**Follow established laboratory procedures when handling material.**

### SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

**Use Personal Protective Equipment:** Including Eye Protection, Chemical Resistant Gloves, and appropriate clothing to prevent skin exposure. In addition, a Respiratory protection program that complies with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

**Engineering Controls:** The use and storage of this material requires user to maintain and make available appropriate eyewash and safety shower facilities. Use fume hood or other appropriate ventilation method to keep airborne concentrations as low as possible.

**Exposure Limits:** No exposure limits for this material have been established by ACGIH, NIOSH, or OSHA.

### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Data Not Available

### SECTION 10 - STABILITY AND REACTIVITY

Hazardous polymerization will not occur.

### SECTION 11 - TOXICOLOGICAL INFORMATION

#### Route of Exposure

American Type Culture Collection  
P.O. Box 1549  
Manassas, VA 20108  
July 2010

Emergency Telephone: (703) 365-2710 (24 hours)  
Information Telephone: (703) 365-2700 Ext.2303



## MATERIAL SAFETY DATA SHEET

**Eye Contact:** Data not available. Avoid eye contact.  
**Skin Contact:** Data not available. Avoid skin contact.  
**Skin Absorption:** Data not available. Avoid skin absorption.  
**Inhalation:** Data not available. Avoid inhalation.  
**Ingestion:** Data not available. Avoid ingestion.  
**Parenteral Exposure:** Data not available. Avoid parenteral exposure.

### Sensitization

**Skin:** Data not available  
**Respiratory:** Data not available

**Target Organ(s) or System(s):** Data not available

### Signs and Symptoms of Exposure

**Skin and Mucous Membranes:** Data not available  
**Respiratory:** Data not available  
**Gastrointestinal:** Data not available

**Toxicity Data:** Data not available  
**Effects of Long Term or Repeated Exposure:** Data not available  
**Chronic Exposure–Teratogen:** Data not available  
**Chronic Exposure–Mutagen:** Data not available  
**Chronic Exposure–Reproductive Hazard:** Data not available

## SECTION 12 - ECOLOGICAL INFORMATION

No ecological information available.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Decontaminate all wastes before disposal (steam sterilization, chemical disinfection, and/or incineration).  
Dispose of in accordance with applicable regulations.

## SECTION 14 - TRANSPORT INFORMATION

Contact ATCC for transport information.

## SECTION 15 - REGULATORY INFORMATION

Contact ATCC for regulatory information.

## SECTION 16 - OTHER INFORMATION



## MATERIAL SAFETY DATA SHEET

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THE INFORMATION PRESENTED IN THIS DOCUMENT IS BELIEVED TO BE CORRECT BASED UPON DATA AVAILABLE TO ATCC. USERS SHOULD MAKE AN INDEPENDENT DECISION REGARDING THE ACCURACY OF THIS INFORMATION BASED ON THEIR NEEDS AND DATA AVAILABLE TO THEM. ALL SUBSTANCES AND MIXTURES MAY PRESENT UNKNOWN HAZARDS AND ALL NECESSARY SAFETY PRECAUTIONS SHOULD BE TAKEN. ATCC ASSUMES NO LIABILITY RESULTING FROM USING OR COMING IN CONTACT WITH THIS SUBSTANCE.

## Cell Biology

ATCC® Number: **HTB-22™** Order this Item Price: **\$279.00**

Designations: MCF7

Depositors: CM McGrath

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:



**Organ:** mammary gland; breast

**Disease:** adenocarcinoma

Source: **Derived from metastatic site:** pleural effusion

**Cell Type:** epithelial

Cellular Products: insulin-like growth factor binding proteins (IGFBP) BP-2;  
BP-4; BP-5

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.

Permits/Forms:

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: estrogen receptor, expressed

Antigen Expression: Blood Type O; Rh+

Amelogenin: X

CSF1PO: 10

D13S317: 11

D16S539: 11,12

DNA Profile (STR): D5S818: 11,12

D7S820: 8,9

THO1: 6

TPOX: 9,12

vWA: 14,15

modal number = 82; range = 66 to 87.

The stemline chromosome numbers ranged from hypertriploidy to hypotetraploidy, with the 2S component occurring at 1%.

There were 29 to 34 marker chromosomes per S metaphase; 24 to 28 markers occurred in at least 30% of cells, and generally one large submetacentric (M1) and 3 large subtelocentric (M2, M3, and M4) markers were recognizable in over 80% of metaphases. No DM were detected. Chromosome 20 was nullisomic and X was disomic.

Cytogenetic Analysis:

### Related Links ▶

[NCBI Entrez Search](#)

[Cell Micrograph](#)

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## Cell Biology

ATCC® Number: **HTB-129™** Order this Item Price: **\$279.00**

Designations: MDA-MB-435S

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
spindle shaped

Morphology:



Source: **Organ:** previously described as: mammary gland; breast  
**Disease:** previously described as ductal carcinoma  
**Derived from metastatic site:** pleural effusion

Cellular Products: tubulin; actin

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.

Isolation: **Isolation date:** 1976

Tumorigenic: No

Amelogenin: X

CSF1PO: 11

D13S317: 12

D16S539: 13

DNA Profile (STR): D5S818: 12

D7S820: 8,10

THO1: 6,7

TPOX: 8,11

vWA: 16,18

modal number = 56; range = 55 to 62

Cytogenetic Analysis: The cell line is aneuploid human female (XX), with most chromosome counts in the 55 to 60 range. Normal chromosomes N6, N11, and N22 were absent, while chromosomes N7, N13, N18 and N21 were single. Most of the remainder of normal chromosomes were usually paired, but chromosome N2 was triple. Nineteen marker chromosomes were identified, with most of them formed from structural alterations of the missing copies of the normal chromosomes. Six of these markers involve regions of chromosome N7, while three are recognized as derivatives of chromosome N6. Regions of a third copy of the normal and paired chromosomes N3, N15, N17, N20 are noted in markers M1, M2, M15, and M5, respectively.

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## Cell Biology

ATCC® Number: **HTB-26™** Order this Item Price: **\$279.00**

Designations: MDA-MB-231

Depositors: R Cailleau

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

epithelial

Morphology:



**Organ:** mammary gland; breast

**Disease:** adenocarcinoma

Source:

**Derived from metastatic site:** pleural effusion

**Cell Type:** epithelial

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.

Permits/Forms:

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: epidermal growth factor (EGF), expressed  
transforming growth factor alpha (TGF alpha), expressed

Tumorigenic: Yes

Amelogenin: X

CSF1PO: 12,13

D13S317: 13

D16S539: 12

DNA Profile (STR): D5S818: 12

D7S820: 8,9

THO1: 7,9.3

TPOX: 8,9

vWA: 15,18

Cytogenetic Analysis:

The cell line is aneuploid female (modal number = 64, range = 52 to 68), with chromosome counts in the near-triploid range. Normal chromosomes N8 and N15 were absent. Eleven stable rearranged marker chromosomes are noted as well as unassignable chromosomes in addition to the majority of autosomes that are trisomic. Many of the marker chromosomes are identical to those shown in the karyotype reported by K.L. Satya-Prakash, et al.

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## Cell Biology

ATCC® Number: **HTB-132™** Order this Item Price: **\$279.00**

Designations: MDA-MB-468  
 Depositors: R Cailleau  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** mammary gland; breast  
**Disease:** adenocarcinoma  
 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.

Permits/Forms:

Isolation: **Isolation date:** 1977  
 Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))  
 Receptors: epidermal growth factor (EGF)  
 transforming growth factor alpha (TGF alpha)  
 Tumorigenic: Yes  
 Antigen Expression: Blood Type AB; HLA Aw23, Aw30, B27, Bw35, Cw2, Cw4 (patient)  
 Amelogenin: X  
 CSF1PO: 12  
 D13S317: 12  
 D16S539: 9  
 DNA Profile (STR): D5S818: 12  
 D7S820: 8  
 THO1: 7  
 TPOX: 8,9  
 vWA: 18  
 modal number = 64; range = 60 to 67.  
 The cell line is aneuploid human, presumably female (X, abnormal X) with most chromosome counts in the hypotriploid range.; Normal chromosomes X, N2, N3, N7, N8, N10, and N22 are clearly under-represented due to their involvement in the formation of the many marker (19) chromosomes present in this cell line.; A normal chromosome N1 (or two) is identified in each karyotype, but, in addition, regions of chromosome N1 are also present in five different marker chromosomes.; Variation is evident in the normal and marker chromosome copy number from karyotype to karyotype.

Cytogenetic Analysis:

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## Cell Biology

ATCC® Number: **HTB-30™** Order this Item Price: **\$279.00**

Designations: SK-BR-3  
 Depositors: G Trempe, LJ Old  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)

epithelial

Morphology:



Source: **Organ:** mammary gland; breast  
**Disease:** adenocarcinoma  
**Derived from metastatic site:** pleural effusion  
 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.

Restrictions: The cells are distributed for research purposes only. The Memorial Sloan-Kettering Cancer Center releases the line subject to the following: 1.) The cells or their products must not be distributed to third parties. Commercial interests are the exclusive property of Memorial Sloan-Kettering Cancer Center. 2.) Any proposed commercial use of these cells must first be negotiated with The Director, Office of Industrial Affairs, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021; phone (212) 639-6181; FAX (212) 717-3439.

Isolation: **Isolation date:** 1970

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Tumorigenic: Yes

Antigen Expression: Blood Type A; Rh+; HLA A11, Bw22(+/-), B40, B18

Amelogenin: X  
 CSF1PO: 12  
 D13S317: 11,12  
 D16S539: 9  
 DNA Profile (STR): D5S818: 9,12  
 D7S820: 9,12  
 TH01: 8,9  
 TPOX: 8,11  
 vWA: 17

**Related Links ▶**

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## Cell Biology

ATCC® Number: **CCL-2™** Order this Item Price: **\$279.00**

Designations: HeLa  
 Depositors: WF Scherer  
Biosafety Level: 2 [Cells contain human papilloma virus ]  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 epithelial  
 Morphology:  PHOTO  
 Source: **Organ:** cervix  
**Disease:** adenocarcinoma  
**Cell Type:** epithelial  
 keratin  
 Cellular Products: Lysophosphatidylcholine (lyso-PC) induces AP-1 activity and c-jun N-terminal kinase activity (JNK1) by a protein kinase C-independent pathway [26623]  
 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.  
 Permits/Forms: transfection host ( [21491] [Nucleofection technology from Lonza](#)  
 Applications: [Roche Transfection Reagents](#))  
 screening for Escherichia coli strains with invasive potential [21447] [21491]  
 Human adenovirus 3  
 Encephalomyocarditis virus  
 Virus Susceptibility: Human poliovirus 1  
 Human poliovirus 2  
 Human poliovirus 3  
 Amelogenin: X  
 CSF1PO: 9,10  
 D13S317: 12,13.3  
 D16S539: 9,10  
 DNA Profile (STR): D5S818: 11,12  
 D7S820: 8,12  
 TH01: 7  
 TPOX: 8,12  
 vWA: 16,18

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## Cell Biology

ATCC® Number: **HTB-38™** [Order this Item](#) Price: **\$279.00**

Designations: HT-29

Depositors: J Fogh

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:



Source: **Organ:** colon  
**Disease:** colorectal adenocarcinoma

Cellular Products: secretory component of IgA; carcinoembryonic antigen (CEA); transforming growth factor beta binding protein; mucin

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.

Restrictions: The cells are distributed for research purposes only. The Memorial Sloan-Kettering Cancer Center releases the line subject to the following: 1.) The cells or their products must not be distributed to third parties. Commercial interests are the exclusive property of Memorial Sloan-Kettering Cancer Center. 2.) Any proposed commercial use of these cells must first be negotiated with The Director, Office of Industrial Affairs, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021; phone (212) 639-6181; FAX (212) 717-3439.

Isolation: **Isolation date:** 1964

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: human adrenergic alpha2A [23560]

urokinase receptor (u-PAR)

vitamin D (moderate expression)

urokinase receptor (u-PAR); vitamin D (moderate expression)

Tumorigenic: Yes

Oncogene: myc +; ras +; myb +; fos +; sis +; p53 +; abl -; ros -; src -

Antigen Expression: Blood Type A; Rh+; HLA A1, A3, B12, B17, Cw5

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## Cell Biology

ATCC® Number: **HTB-37™**  Price: **\$279.00**

Designations: Caco-2

Depositors: J Fogh

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:  PHOTO

Source: **Organ:** colon  
**Disease:** colorectal adenocarcinoma  
keratin

Cellular Products: retinoic acid binding protein 1  
retinol binding protein 2

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.

Restrictions: NaviCyte Scientific holds the exclusive commercial distribution rights to the Caco-2 cell line as deposited by the Memorial Sloan-Kettering Cancer Center (SK) with the American Type Culture Collection (ATCC). **Note:** All uses of ATCC® HTB-37™, other than for research by a non-commercial or academic entity, require a license and use authorization from NaviCyte Scientific under its exclusive arrangement with Memorial Sloan-Kettering.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: heat stable enterotoxin (Sta, *E. coli*), expressed  
epidermal growth factor (EGF), expressed

Virus Susceptibility: Human immunodeficiency virus 1

Tumorigenic: Yes

DNA Profile (STR): Amelogenin: X  
CSF1PO: 11  
D13S317: 11,13,14  
D16S539: 12,13  
D5S818: 12,13  
D7S820: 11,12  
THO1: 6  
TPOX: 9,11  
vWA: 16,18

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## Cell Biology

ATCC® Number: **CCL-225™** Order this Item Price: **\$279.00**

Designations: HCT-15  
 Depositors: DL Dexter  
 Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)

## Morphology:



**Organ:** colon

## Source:

**Tumor Stage:** Dukes' type C

**Disease:** colorectal adenocarcinoma

## Cellular Products:

carcinoembryonic antigen (CEA) 5.4 ng/10 exp6 cells/10 days; 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.

## Applications:

transfection host ([Roche Transfection Reagents](#))

## Tumorigenic:

Yes

Amelogenin: X,Y

CSF1PO: 12

D13S317: 8,11

D16S539: 12,13

## DNA Profile (STR):

D5S818: 13

D7S820: 10,12

TH01: 7,9.3

TPOX: 8,11

vWA: 18,19

## Cytogenetic Analysis:

This is a quasidiploid human cell line with the modal number 46 occurring in 76% of cells (range = 41 to 47 for 50 metaphases). The rate of polyploidy was 5.1%. The karyotype of the line 46, XY, -8, -11, -17, t(8:17)(p23;q21), inv(11)(p15.3q13.1). The Y chromosome was slightly longer than N22, and had a large segment of heterochromatic, fluorescent distal q arms.

ES-D, 2

G6PD, B

PEP-D, 1

PGD, A

PGM1, 1-2

PGM3, 1

## Isoenzymes:

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## Cell Biology

ATCC® Number:

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Designations: HCT 116

Depositors: MG Brattain

[Biosafety Level:](#) 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:

Source: **Organ:** colon**Disease:** colorectal carcinoma

Cellular Products: carcinoembryonic antigen (CEA) 1 ng per 10 exp6 cells per 10 days; 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.Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Tumorigenic: Yes

Amelogenin: X,Y

CSF1PO: 7,10

D13S317: 10,12

D16S539: 11,13

DNA Profile (STR): D5S818: 10,11

D7S820: 11,12

TH01: 8,9

TPOX: 8,9

vWA: 17,22

Cytogenetic Analysis:

The stemline chromosome number is near diploid with the modal number at 45 (62%) and polyploids occurring at 6.8%. The markers 10q+ and t(?8p;18q) are present in all metaphases and t(9q;?16p-), in 80% of the cells karyotyped. N16 is monosomic in the presence of, but disomic in the absence of t(9q;?16p-). N10 and N18 are monosomic and other chromosomes from those mentioned above are disomic. Q-band observations revealed the presence of the Y chromosome, but not in all cells (50% of cells lacked the Y in G-band karyotypes).

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## Cell Biology

ATCC® Number: **CCL-227™** Order this Item Price: **\$279.00**

Designations: SW620 [SW-620]

Depositors: A Leibovitz

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

**Organ:** colon

**Tumor Stage:** Dukes' type C

**Disease:** colorectal adenocarcinoma

**Derived from metastatic site:** lymph node

Source:

Cellular Products:

carcinoembryonic antigen (CEA) 0.15 ng/10 exp6 cells/10 days; transforming growth factor alpha; keratin; matrilysin

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.

Permits/Forms:

Applications: transfection host ([Roche Transfection Reagents](#))

Tumorigenic: Yes

Oncogene: myc +; myb +; ras +; fos +; sis +; p53 +; abl -; ros -; src -

Antigen Expression: blood type A; Rh+

Amelogenin: X

CSF1PO: 13,14

D13S317: 12

D16S539: 9,13

DNA Profile (STR): D5S818: 13

D7S820: 8,9

THO1: 8

TPOX: 11

vWA: 16

Cytogenetic Analysis:

modal number = 50; range = 45 to 53, The stemline chromosome number is hyperdiploid with the 2S component occurring at 12% and 11 marker chromosomes were common to S metaphases. One of the 11 markers [7 (7p; 11p)] was disomic., M1 was probably an HSR but the origin of the chromosome could not be identified.

Isoenzymes:

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## Cell Biology

ATCC® Number: **CRL-1555™**  Price:**\$279.00**Designations: A-431  
Depositors: DJ Giard, SA AaronsonBiosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:

**Organ:** skinSource: **Tissue:** epidermis**Disease:** epidermoid carcinoma

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.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Tumorigenic: Yes

Amelogenin: X  
CSF1PO: 11,12  
D13S317: 9,13  
D16S539: 12,14

DNA Profile (STR): D5S818: 12,13

D7S820: 10  
THO1: 9  
TPOX: 11  
vWA: 15,17

Cytogenetic Analysis:

This is a hypertriploid human cell line. The modal chromosome number was 74 occurring in 36% of cells. The rate of cells with higher ploidies was 1.0%.

AK-1, 1  
ES-D, 1  
G6PD, B  
GLO-I, 2  
Me-2, 0  
PGM1, 1  
PGM3, 1

Isoenzymes:

Age: 85 years

Gender: female

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## Cell Biology

ATCC® Number: **CCL-243™** [Order this Item](#) Price: **\$279.00**

Designations: K-562

Depositors: HT Holden

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: suspension

Organism: *Homo sapiens* (human)

Morphology: lymphoblast

Source: **Organ:** bone marrow  
**Disease:** chronic myelogenous leukemia (CML)

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.

Applications: transfection host ([Nucleofection technology from Lonza](#))

Tumorigenic: Yes

Antigen Expression: CD7 (25%)

Amelogenin: X

CSF1PO: 9,10

D13S317: 8

D16S539: 11,12

DNA Profile (STR): D5S818: 11,12

D7S820: 9,11

THO1: 9.3

TPOX: 8,9

vWA: 16

Cytogenetic Analysis: The stemline chromosome number is triploid with the 2S component occurring at 4.2%. Fifteen markers (M1 and M(15)) occurred in nearly all S metaphases. Spontaneous non-specific dicentrics occurred, but rarely. Unstable markers were also rarely seen. The X was disomic, and N9 was nullisomic.

AK-1, 1

ES-D, 1

G6PD, B

Isoenzymes: GLO-I, 2

Me-2, 0

PGM1, 0

PGM3, 1

Age: 53 years

Gender: female

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## Cell Biology

ATCC® Number: **CCL-121™** [Order this Item](#) Price: **\$279.00**

Designations: HT-1080

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Tissue:** connective tissue  
**Disease:** fibrosarcoma

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.

Isolation: **Isolation date:** July, 1972

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Virus Susceptibility: Human poliovirus 1  
RD-114 Feline  
Feline leukemia virus  
Vesicular stomatitis virus

Tumorigenic: Yes

Oncogene: ras +  
Amelogenin: X,Y  
CSF1PO: 12  
D13S317: 12,14  
D16S539: 9,12

DNA Profile (STR): D5S818: 11,13  
D7S820: 9,10  
THO1: 6  
TPOX: 8  
vWA: 14,19

Cytogenetic Analysis: modal number = 46; range = 44 to 48.  
Pseudodiploidy was frequently noted. About 40% of the cells had rearranged karyotypes with an extra E-group chromosome and a group C chromosome, probably chromosome 11, was missing.

Isoenzymes: G6PD, B

Age: 35 years

Gender: male

Ethnicity: Caucasian

Comments: The cells contain an activated N-ras oncogene.

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## Cell Biology

ATCC® Number: **CRL-1739™**  Price: **\$279.00**

Designations: AGS  
 Depositors: SC Barranco  
Biosafety Level: 2  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** stomach  
**Disease:** gastric adenocarcinoma

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.

Isolation: **Isolation date:** 1979  
 Applications: transfection host ([Nucleofection technology from Lonza](#))  
 Tumorigenic: Yes

Cytogenetic Analysis: This is a hyperdiploid human cell line. The modal chromosome number was 49, occurring in 60% of cells. The rate of polyploidy was 3.6%. Single copy each for der(8)t(1;8)(q12;p23), der(19)t(19;?)(q13.6;?), minute chromosome M3, and C-group-like M12 was seen in all cells. The origins of both M3 and M12 defied identification presently. The t(13q14q) occurred in some. Generally there were three copies for N20, and single copy for X, N8 and N18. Occasionally there were three copies for N14.

Age: 54 years  
 Gender: female  
 Ethnicity: Caucasian

Comments: The AGS cell line was derived from fragments of a tumor resected from a patient who had received no prior therapy. The cells have a plating efficiency of 34% in the medium below. The line was cured at the ATCC of a prior mycoplasma infection. Subsequently, AGS has been determined to be infected with Parainfluenza type 5 (PIV5 formerly known as SV5). [PubMed: 17509637]

Propagation: **ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated F-12K Medium, Catalog No. 30-2004. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.  
**Temperature:** 37.0°C

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## Cell Biology

ATCC® Number: **HTB-135™** Order this Item Price: **\$329.00**

Designations: Hs 746T  
 Depositors: RB Owens  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** stomach  
**Disease:** gastric carcinoma  
**Derived from metastatic site:** left leg

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.

Isolation: California, United States  
**Isolation date:** 1973

Tumorigenic: Yes  
 Amelogenin: X,Y  
 CSF1PO: 10,12  
 D13S317: 10  
 D16S539: 11

DNA Profile (STR): D5S818: 11,13  
 D7S820: 8  
 TH01: 9  
 TPOX: 8,10  
 vWA: 15,17

Cytogenetic Analysis: This is a hypertriploid human cell line having the modal chromosome number of 77 occurring in 46% of cells. Cells with higher ploidies were found at 16.6%. The karyotype of this cell line is very complex. Between 45% and 55% of chromosomes in each cell had structural aberrations, including: der(4)t(1;4) (p13.1;q35); t(15q22q); del(2) (p13); der(7)t(7;?) (p22;?) [7p+]; t(7q22q?) and others. The t(15q22q), del(2), and t(7q22q?) (and several others) had two copies in most cells. There were two types of der(7): one was the 7p+ described above; the other, 7p++, was distinctly longer than N1. There were more than ten markers that were present in some cells only. One DM-like chromosome was found in most cells. Normal N7 and N21 were absent. One normal X and one or two normal Y chromosomes were detected.

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## Cell Biology

ATCC® Number: **CRL-5822™**  Price: **\$329.00**

Designations: NCI-N87 [N87]

Depositors: J Park

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Organ:** stomach  
**Disease:** gastric carcinoma  
**Derived from metastatic site:** liver

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.

Isolation: **Isolation date:** 1976Receptors: acetylcholine, muscarinic, expressed [[23078](#)]

Tumorigenic: Yes

Oncogene: myc +; erb B2 +  
Amelogenin: X,YCSF1PO: 8,12  
D13S317: 8,11  
D16S539: 9,13DNA Profile (STR): D5S818: 12,13  
D7S820: 10,11  
THO1: 9  
TPOX: 9,11  
vWA: 15,16

Cytogenetic Analysis: near diploid; DM were present in 64% of cells examined

Gender: male

Comments:

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## Cell Biology

ATCC® Number: **HTB-14™** Order this Item Price: **\$279.00**

Designations: U-87 MG

Depositors: J Ponten

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)  
epithelial

Morphology:



**Organ:** brain

Source: **Tumor Stage:** classified as grade IV as of 2007

**Disease:** glioblastoma; astrocytoma

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.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Tumorigenic: Yes

Antigen Expression: Blood Type A, Rh+

Amelogenin: X

CSF1PO: 10,11

D13S317: 8,11

D7S820: 8,9

DNA Profile (STR): D5S818: 11,12

D16S539: 12

vWA: 15,17

THO1: 9.3

TPOX: 8

Cytogenetic Analysis:

This is a hypodiploid human cell line with the modal chromosome number of 44 occurring in 48% of cells. The rate of higher ploidy was 5.9%. Twelve markers were common to all cells, including der(1)t(1;3) (p22;q21), der(16)t(1;16) (p22;p12), del(9) (p13) and nine others. The marker der(1) had two copies in most cells. There was only one copy of normal X. N1, N6 and N9 were not found.

Isoenzymes:

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## Cell Biology

ATCC® Number: **CRL-1620™**  Price: **\$279.00**

Designations: A-172 [A172]  
 Depositors: DJ Giard  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology:

Source: **Organ:** brain  
**Disease:** glioblastoma

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.

Tumorigenic: No  
 Amelogenin: X,Y  
 CSF1PO: 9,12  
 D13S317: 11  
 D16S539: 12

DNA Profile (STR): D5S818: 11,12  
 D7S820: 11  
 TH01: 6,9.3  
 TPOX: 8,11  
 vWA: 20

Age: 53 years  
 Gender: male

Propagation: **ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.  
**Temperature:** 37.0°C

Subculturing: **Protocol:** Remove medium, and rinse with 0.25% trypsin, 0.03% EDTA solution. Remove the solution and add an additional 1 to 2 ml of trypsin-EDTA solution. Allow the flask to sit at room temperature (or at 37C) until the cells detach. Add fresh culture medium, aspirate and dispense into new culture flasks.

**Subcultivation Ratio:** A subcultivation ratio of 1:3 to 1:8 is recommended  
**Medium Renewal:** Every 2 to 3 days

Preservation: **Freeze medium:** culture medium 95%; DMSO, 5%  
**Storage temperature:** liquid nitrogen vapor phase

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## Cell Biology

ATCC® Number:

**HB-8065™**[Order this Item](#)

Price:

**\$279.00**

Designations:

Hep G2

Depositors:

Wistar Institute

[Biosafety Level:](#)

1

Shipped:

frozen

Medium &amp; Serum:

[See Propagation](#)

Growth Properties:

adherent

Organism:

*Homo sapiens* (human)

epithelial

Morphology:



Source:

**Organ:** liver**Disease:** hepatocellular carcinoma

Cellular Products:

alpha-fetoprotein (alpha fetoprotein); albumin; alpha2 macroglobulin (alpha-2-macroglobulin); alpha1 antitrypsin (alpha-1-antitrypsin); transferrin; alpha1 antichymotrypsin; (alpha-1-antichymotrypsin); haptoglobin; ceruloplasmin; plasminogen; [3525]  
 complement (C4); C3 activator; fibrinogen; alpha1 acid glycoprotein (alpha-1 acid glycoprotein); alpha2 HS glycoprotein (alpha-2-HS-glycoprotein); beta lipoprotein (beta-lipoprotein); retinol binding protein (retinol-binding protein) [3525]

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.

Applications:

transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors:

insulin; insulin-like growth factor II (IGF II) [22446]

Tumorigenic:

No

Amelogenin: X,Y

CSF1PO: 10,11

D13S317: 9,13

D16S539: 12,13

D5S818: 11,12

D7S820: 10

DNA Profile (STR): F13A01: 5,7

F13B: 6,10

FESFPS: 11

LPL: 10,11

THO1: 9

TPOX: 8,9

vWA: 17

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## Cell Biology

ATCC® Number: **CRL-11268™**  Price: **\$279.00**

Designations: 293T/17 [HEK 293T/17]  
 Depositors: Rockefeller Univ.  
Biosafety Level: 2 [Cells contain Adeno and SV-40 viral DNA sequences ]  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** kidney

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.

Restrictions: The line is available with the following restriction: 1. The cell line was deposited at the ATCC by Rockefeller University and is provided for research purposes only. Neither the cell line nor the products derived from it may be sold or used for commercial purposes. Nor can the cells be distributed to third parties for purposes of sale, or producing for sale, cells or their products. The cells are provided as a service to the research community. They are provided without warranty of merchantability or fitness for a particular purpose or any other warranty, expressed or implied. 2. Any proposed commercial use of the cells, or their products, must first be negotiated with Cell Genesys, 500 Forbes Boulevard, South San Francisco, CA 94080 Attn: Robert H. Tidwell; Senior Vice President, Corporate Development.

Antigen Expression: SV40 T antigen [[45408](#)]

Amelogenin: X  
 CSF1PO: 11, 12  
 D13S317: 12, 14  
 D16S539: 9, 13

DNA Profile (STR): D5S818: 8, 9  
 D7S820: 11  
 TH01: 7, 9.3  
 TPOX: 11  
 vWA: 16, 18, 19

Age: fetus

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## Cell Biology

ATCC® Number: **CCL-240™** Order this Item Price: **\$279.00**

Designations: HL-60

Depositors: RC Gallo

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: suspension

Organism: *Homo sapiens* (human)  
myeloblastic

Morphology:



**Organ:** peripheral blood

Source: **Disease:** acute promyelocytic leukemia

**Cell Type:** promyeloblast;

Cellular Products: tumor necrosis factor (TNF), also known as tumor necrosis factor alpha (TNF-alpha, TNF alpha), after stimulation with phorbol myristic acid [23403]

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.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: complement, expressed [1050]  
Fc, expressed [1050]

Tumorigenic: Yes

Oncogene: myc +

DNA Profile (STR): Amelogenin: X  
CSF1PO: 13,14  
D13S317: 8,11  
D16S539: 11

D5S818: 12  
D7S820: 11,12  
THO1: 7,8  
TPOX: 8,11  
vWA: 16

Cytogenetic Analysis: The stemline chromosome number is pseudodiploid with the 2S component occurring at 6.2%. Five markers (M2 through M6) were common to most S metaphases. DM's, which varied in numbers per cell, occurred in all metaphases karyotyped. HSR chromosomes were not detected.

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## Cell Biology

ATCC® Number: **CCL-75™** Order this Item Price: **\$279.00**

Designations: WI-38  
 Depositors: L Hayflick  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: fibroblast

Source: **Organ:** lung  
**Disease:** normal  
**Cell Type:** fibroblast

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.

Applications: testing [92346] [92389]  
 transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))  
 viruscide testing

Virus Susceptibility: Herpes simplex virus  
 Pseudorabies virus  
 Human poliovirus 1  
 Vesicular stomatitis, Glasgow (Indiana)

DNA Profile (STR): Amelogenin: X  
 CSF1PO: 10,12  
 D13S317: 11  
 D16S539: 11,12  
 D5S818: 10  
 D7S820: 9,11  
 THO1: 8,9.3  
 TPOX: 8  
 vWA: 19,20

Cytogenetic Analysis: normal diploid

Isoenzymes: G6PD, B  
 Age: 3 months gestation fetus  
 Gender: female  
 Ethnicity: Caucasian

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## Cell Biology

ATCC® Number: **CRL-8155™** Order this Item Price: **\$429.00**

Designations: WIL2-NS  
 Depositors: TA Coons  
Biosafety Level: 2  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: suspension  
 Organism: *Homo sapiens* (human)  
 Morphology: lymphoblast

Source: **Organ:** spleen  
**Disease:** hereditary spherocytosis  
**Cell Type:** B lymphocyte;

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.

Applications: transfection host ([Roche Transfection Reagents](#))

Amelogenin: X,Y  
 CSF1PO: 11,12  
 D13S317: 11  
 D16S539: 11,12  
 D5S818: 12,13  
 D7S820: 9,12

DNA Profile (STR): F13A01: 6,7  
 F13B: 10  
 FESFPS: 11,12  
 LPL: 9,10  
 TH01: 8,9.3  
 TPOX: 8,11  
 vWA: 17,20

Age: 5 years  
 Gender: male  
 Ethnicity: Caucasian

Comments: This line does not secrete immunoglobulin.  
 The line was derived from the WIL-2 B cell line.

Propagation: **ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated RPMI-1640 Medium, Catalog No. 30-2001. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

**Temperature:** 37.0°C

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## Cell Biology

ATCC® Number: **CRL-1593.2™**  Price:**\$279.00**

Designations: U-937

Depositors: H Koren

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: suspension

Organism: *Homo sapiens* (human)

Morphology: monocyte

Source: **Disease:** histiocytic lymphoma

Cellular Products: lysozyme; beta-2-microglobulin (beta 2 microglobulin); tumor necrosis factor (TNF), also known as tumor necrosis factor alpha (TNF-alpha, TNF alpha), after stimulation with phorbol myristic acid (PMA)

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.

Restrictions: The original U-937 cell line was established by Dr. K. Nilsson's laboratory in 1974 and he has requested the following: (1) In all papers reporting any use of this cell line or any derivatives thereof a direct reference should be made to Sundstrom and Nilsson (Int. J. Cancer 17: 565-577, 1976). (2) Any proposed commercial use of the cells should be negotiated with Professor Kenneth Nilsson, Rudbeck Laboratory, SE-751 85 Uppsala, Sweden. (3) No distribution of any of the cells or sublines derived therefrom should be made to third parties; (4) The cells should be used for non-clinical, non-commercial research only.

Isolation: **Isolation date:** 1974Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: complement (C3)

Amelogenin: X

CSF1PO: 12

D13S317: 10,12

D16S539: 12

DNA Profile (STR): D5S818: 12

D7S820: 9,11

TH01: 6, 9,3

TPOX: 8,11

vWA: 14, 15

Age: 37 years

Gender: male

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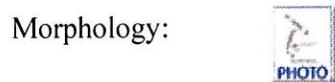
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## Cell Biology

ATCC® Number: **HTB-70™**  Price: **\$329.00**

Designations: SK-MEL-5  
 Depositors: T Takahashi  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)

Morphology: stellate



Source: **Organ:** skin  
**Disease:** malignant melanoma  
**Derived from metastatic site:** axillary node

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.

Restrictions: The cells are distributed for research purposes only. The Memorial Sloan-Kettering Cancer Center releases the line subject to the following: 1.) The cells or their products must not be distributed to third parties. Commercial interests are the exclusive property of Memorial Sloan-Kettering Cancer Center. 2.) Any proposed commercial use of these cells must first be negotiated with The Director, Office of Industrial Affairs, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021; phone (212) 639-6181; FAX (212) 717-3439.

Applications: transfection host ([Roche Transfection Reagents](#))

Tumorigenic: Yes

Antigen Expression: Blood Type O; Rh+; HLA A2, A11, B40, Bw16

Amelogenin: X

CSF1PO: 10,13

D13S317: 10,12

D16S539: 10,12

DNA Profile (STR): D5S818: 11,13

D7S820: 9,12

TH01: 6,9

TPOX: 11

vWA: 14,18

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## Cell Biology

ATCC® Number: **CRL-1443™**  Price: **\$429.00**

Designations: BC3H1  
 Depositors: W Carlisle  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Mus musculus* (mouse)  
 Morphology:

**Organ:** brain  
**Strain:** C3H  
**Tissue:** smooth muscle like  
**Disease:** tumor  
**Cell Type:** methylnitrosourea induced

Source:

Cellular Products: adenylate phosphokinase; creatine phosphokinase

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.

Permits/Forms:

Receptors: acetylcholine

Antigen Expression: H-2k

Comments:

Recent data suggest that BC3H1 cells may more closely resemble cells in an arrested state of skeletal muscle differentiation than smooth muscle cells.  
 Tested and found negative for ectromelia virus (mousepox).  
**ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 20%.  
**Temperature:** 37.0°C

Propagation:

**Subcultivation Ratio:** A subcultivation ratio of 1:2 to 1:10 is recommended

Subculturing:

**Medium Renewal:** Twice per week  
 Remove medium, add fresh 0.25% trypsin solution for 2 to 5 minutes, remove trypsin and let the culture sit at room temperature for 10 to 15 minutes. Add fresh medium, aspirate and dispense into new flasks.

References:

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## Cell Biology

ATCC® Number: **CCL-185™**  Price: **\$279.00**

Designations: A549  
 Depositors: M Lieber  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)

epithelial

Morphology:



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.

Isolation: **Isolation date:** 1972

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Amelogenin: X,Y  
 CSF1PO: 10,12  
 D13S317: 11  
 D16S539: 11,12

DNA Profile (STR): D5S818: 11  
 D7S820: 8,11  
 TH01: 8,9.3  
 TPOX: 8,11  
 vWA: 14

Cytogenetic Analysis: This is a hypotriploid human cell line with the modal chromosome number of 66, 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

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## Cell Biology

ATCC® Number: **CRL-5826™** Order this Item Price: **\$329.00**

Designations: NCI-H226 [H226]  
 Depositors: AF Gazdar, JD Minna  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: Epithelial

Source: **Organ:** lung  
**Disease:** squamous cell carcinoma; mesothelioma [23570]  
**Derived from metastatic site:** pleural effusion

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.

Restrictions: The line is available with the following restrictions: 1. This cell line was deposited at the ATCC by Dr. A. Gazdar and Dr. J. Minna and is provided for research purposes only. Neither the cell line nor products derived from it may be sold or used for commercial purposes. Nor can the cells be distributed to third parties for purposes of sale, or producing for sale, cells or their products. The cells are provided as service to the research community. They are provided without warranty of merchantability or fitness for a particular purpose or any other warranty, expressed or implied. 2. Any proposed commercial use of the these cells, or their products must first be negotiated with the University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Blvd., Dallas, Texas 75235. Telephone (214) 699-8056, FAX (214) 688-7233.

Isolation: **Isolation date:** March, 1980

Amelogenin: X,Y  
 CSF1PO: 10,11  
 D13S317: 13,14  
 D16S539: 9,12

DNA Profile (STR): D5S818: 11,12  
 D7S820: 8,10  
 TH01: 8,9,3  
 TPOX: 8,11  
 vWA: 17

Cytogenetic Analysis: modal number = 47; range = 32-88; del(p25)

Gender: male

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## Cell Biology

ATCC® Number: **HTB-177™** Order this Item Price: **\$279.00**

Designations: NCI-H460 [H460]

Depositors: AF Gazdar, JD Minna

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Organ:** lung  
**Disease:** carcinoma; large cell lung cancer  
**Derived from metastatic site:** pleural effusion

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.

Isolation: **Isolation date:** 1982

Tumorigenic: Yes  
Amelogenin: X,Y  
CSF1PO: 11,12  
D13S317: 13  
D16S539: 9

DNA Profile (STR): D5S818: 9,10  
D7S820: 9,12  
TH01: 9.3  
TPOX: 8  
vWA: 17

Cytogenetic Analysis: modal numbr = 57; range = 53 to 65. This is a hypotriploid human cell line. The modal chromosome number is 57 although cells with 58 chromosomes occurred with a comparable frequency. The frequency of higher ploidies was 1.7%. Seven marker chromosomes, der(9)t(1;9)(q21;p24), der(9)t(7;9)(p11;p22), t(10q14q), der(16)t(7;16)(q11.23;q22), a small ring (about 1/2 the size of a G chromosome) and two others, were common to all cells. Three other markers were found in some cells only. The markers, t(7;9) and t(7;16) were mostly paired. Normal N9 was absent, and N7 and N16 had only a single copy per cell. Two copies each of the X and the Y were present in all cells.

Isoenzymes:

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## Cell Biology

ATCC® Number: **HTB-182™** Order this Item Price: **\$329.00**

Designations: NCI-H520 [H520]

Depositors: AF Gazdar, JD Minna

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Organ:** lung  
**Disease:** squamous cell carcinoma

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.

Applications: transfection host ([Roche Transfection Reagents](#))

Tumorigenic: Yes

Amelogenin: X

CSF1PO: 10

D13S317: 10,11

D16S539: 8,13

DNA Profile (STR): D5S818: 12,13

D7S820: 8,12

THO1: 10

TPOX: 8

vWA: 18,19

Cytogenetic Analysis: This is a hypotriploid human cell line. The modal chromosome number is 58 occurring at 30%. The frequency of higher ploidies was 3.2%. Over 30 marker chromosomes were common to all cells, and four others were found in some cells. Among the common markers were 1q+, t(1q8q), 2q+, der(16)t(3;16)(q21;q22), der(19)t(13;19)(q21;q13), and der(5)t(5;5)(p15pq13). Generally, there were two copies of der(5) in each cell. Normal Y and D group chromosomes were absent, and the X chromosome was single.

AK-1, 1

ES-D, 1

G6PD, B

Isoenzymes: GLO-I, 2

Me-2, 0

PGM1, 1

PGM3, 1

Gender: male

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## Cell Biology

ATCC® Number: **CRL-11732™**  Price: **\$329.00**

Designations: OV-90  
 Depositors: University of Montreal  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

**Organ:** ovary  
**Tumor Stage:** grade 3, stage IIIC  
**Disease:** malignant papillary serous adenocarcinoma  
**Derived from metastatic site:** ascites

Cellular Products: keratin [49408]  
 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.

Permits/Forms:  
 Isolation: **Isolation date:** August, 1992  
 Tumorigenic: Yes  
 Oncogene: her2/neu +, p53 (mutated, Ser --> Arg mutation at exon 6, codon 215)

Amelogenin: X  
 CSF1PO: 12,13  
 D13S317: 11,12  
 D16S539: 11  
 DNA Profile (STR): D5S818: 11,15  
 D7S820: 10,10.1  
 THO1: 9.3  
 TPOX: 8,10  
 vWA: 16,17

Cytogenetic Analysis: 46, XX, der(1)t(1;10)(p36;p15), hsr(3)(p11), der(9;17)(q10;q10), der(10)t(10;17)(p15;p12p13), der(13)t(13;13)(p11;q14) [49408]

Age: 64 years  
 Gender: female

Comments: This cell line was initiated in August of 1992 from a patient of French-Canadian descent with no family history of ovarian cancer. [49408]  
 Like TOV-21G (ATCC [CRL-11730](#)), the OV-90 (ATCC [CRL-11732](#)) cell line exhibits a deletion at chromosome 3p24. The TOV-112D (ATCC [CRL-11731](#)) cell line does not exhibit a deletion at chromosome 3p24. [42090]

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## Cell Biology

ATCC® Number: **HTB-85™** Order this Item Price: **\$279.00**

Designations: Saos-2  
 Depositors: J Fogh, G Trempe  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)

epithelial

Morphology:



Source: **Organ:** bone  
**Disease:** osteosarcoma

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.

Restrictions: The cells are distributed for research purposes only. The Memorial Sloan-Kettering Cancer Center releases the line subject to the following: 1.) The cells or their products must not be distributed to third parties. Commercial interests are the exclusive property of Memorial Sloan-Kettering Cancer Center. 2.) Any proposed commercial use of these cells must first be negotiated with The Director, Office of Industrial Affairs, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021; phone (212) 639-6181; FAX (212) 717-3439.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: epidermal growth factor (EGF); transforming growth factor beta (type 1 and type 2)

Tumorigenic: No

Antigen Expression: Blood Type B, Rh+; HLA A2, A3, Bw16, Bw47

Amelogenin: X  
 CSF1PO: 10  
 D13S317: 12,13  
 D16S539: 12,13

DNA Profile (STR): D5S818: 12  
 D7S820: 8,10  
 TH01: 6,9  
 TPOX: 8  
 vWA: 18

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## Cell Biology

ATCC® Number: **CRL-1469™**  Price: **\$279.00**

Designations: PANC-1  
 Depositors: M Lieber  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** pancreas  
**Tissue:** duct  
**Disease:** epithelioid carcinoma

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.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Amelogenin: X  
 CSF1PO: 10,12  
 D13S317: 11  
 D16S539: 11  
 DNA Profile (STR): D5S818: 11,13  
 D7S820: 8,10  
 TH01: 7,8  
 TPOX: 8,11  
 vWA: 15

Cytogenetic Analysis: Chromosome studies indicate a modal number of 63 with 3 distinct marker chromosomes and a small ring chromosome. This is a hypertriploid human cell line. The modal chromosome number was 61, occurring in 32% of cells., However, cells with 63 chromosomes also occurred at a high frequency (22%). The rate of cells with higher ploidies was 8.5%.

Isoenzymes: G6PD, B  
 Age: 56 years  
 Gender: male  
 Ethnicity: Caucasian

Comments: Growth is inhibited by 1 unit/ml L-asparaginase. The cells will grow in soft agar.

Propagation:

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## Cell Biology

ATCC® Number: **CRL-2553™** Order this Item Price: **\$429.00**

Designations: Panc 02.03  
 Depositors: EM Jaffee  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** pancreas  
**Disease:** adenocarcinoma

Cellular Products: cytokeratins 7 and 18 [[50655](#)]

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.

Tumorigenic: Yes

Oncogene: K-ras +

Antigen Expression: MHC class I +; MHC class II - [[50655](#)]

Amelogenin: X  
 CSF1PO: 11,12  
 D13S317: 12  
 D16S539: 11

DNA Profile (STR): D5S818: 12,13  
 D7S820: 9,10  
 TH01: 6  
 TPOX: 9,12  
 vWA: 17

Age: 70 years

Gender: female

Ethnicity: White

Comments: Panc 02.03 is a pancreatic adenocarcinoma epithelial cell line derived in 1995 from a primary tumor removed from the head-of-the-pancreas of a female with pancreatic adenocarcinoma. The cell line exhibits a K-ras oncogene mutation at codon 12 where a GGT --> GAT mutation resulted in substitution of aspartic acid for glycine. [[50655](#)]  
 The cells have a reported plating efficiency of 100%. [[50655](#)]

Propagation:

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## Cell Biology

ATCC® Number: **CRL-2549™** Order this Item Price: **\$429.00**

Designations: Panc 03.27

Depositors: EM Jaffee

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Organ:** pancreas  
**Disease:** adenocarcinoma

Cellular Products: cytokeratins 7 and 18

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.

Tumorigenic: Yes

Oncogene: K-ras + (wild-type)

Antigen Expression: MHC class I +; MHC class II - [\[50655\]](#)  
Blood type A; Rh+

Amelogenin: X  
CSF1PO: 10,11  
D13S317: 11,12  
D16S539: 12

DNA Profile (STR): D5S818: 12,13  
D7S820: 8,13  
THO1: 6  
TPOX: 8,9  
vWA: 16,17

Age: 65 years

Gender: female

Ethnicity: White

Comments: Panc 03.27 is a pancreatic adenocarcinoma epithelial cell line derived in 1995 from a primary tumor removed from the head-of-the-pancreas of a female with pancreatic adenocarcinoma. The cells have a reported plating efficiency of 80%.

Propagation:

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## Cell Biology

ATCC® Number: **CRL-2547™** Order this Item Price: **\$329.00**

Designations: Panc 10.05  
 Depositors: EM Jaffee  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** pancreas  
**Disease:** adenocarcinoma

Cellular Products: cytokeratins 7 and 18 [[50655](#)]

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.

Isolation: **Isolation date:** 1992  
 Tumorigenic: Yes  
 Oncogene: K-ras +  
 Antigen Expression: MHC class I +; MHC class II -

Amelogenin: X  
 CSF1PO: 12  
 D13S317: 12  
 D16S539: 9,12

DNA Profile (STR): D5S818: 13  
 D7S820: 8,9  
 TH01: 6,9.3  
 TPOX: 11  
 vWA: 16

Age: adult  
 Gender: male  
 Ethnicity: White

Comments: Panc 10.05 is a pancreatic adenocarcinoma epithelial cell line derived in 1992 from a primary tumor removed from the head-of-the-pancreas of a male with pancreatic adenocarcinoma. Both the PL45 and the Panc 10.05 cell lines exhibit a K-ras oncogene mutation at codon 12 where a GGT --> GAT mutation resulted in substitution of aspartic acid for glycine. [[50655](#)]

The cells have a reported plating efficiency of 40%. [[50655](#)]  
 The Panc 10.05 cell line was derived from the same patient as the PL45 cell line (ATCC [CRL-2558](#)).

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## Cell Biology

ATCC® Number: **HTB-81™** Order this Item Price: **\$279.00**

Designations: DU 145  
 Depositors: KR Stone  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** prostate  
**Disease:** carcinoma  
**Derived from metastatic site:** brain

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.

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Tumorigenic: Yes  
 Antigen Expression: Blood Type O; Rh+  
 D7S820: 7, 10, 11  
 D13S317: 12, 13, 14  
 D5S818: 10, 13  
 vWA: 17, 18, 19

DNA Profile (STR): TH01: 7  
 CSF1PO: 10, 11  
 TPOX: 11  
 D16S539: 11, 13  
 Amelogenin: X, Y

Cytogenetic Analysis: This is a hypotriploid human cell line. Both 61 and 62 chromosome numbers had the highest rate of occurrence in 30 metaphase counts. The rate of higher ploidies was 3%. The t(11q12q), del(11)(q23), 16q+, del(9)(p11), del(1)(p32) and 6 other marker chromosomes were found in most cells. The N13 was usually absent. The Y chromosome is abnormal through translocation to an unidentified chromosomal segment. The X chromosome was present in single copy.

Isoenzymes:

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## Cell Biology

ATCC® Number: **CRL-1740™**  Price: **\$279.00**

Designations: LNCaP clone FGC

Depositors: JS Horoszewicz

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent, single cells and loosely attached clusters

Organism: *Homo sapiens* (human)  
epithelial

Morphology:



**Organ:** prostate

**Disease:** carcinoma

Source: **Derived from metastatic site:** left supraclavicular lymph node

Cellular Products: human prostatic acid phosphatase; prostate specific antigen [21889]

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.

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Isolation: **Isolation date:** 1977

Applications: transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Receptors: androgen receptor, positive; estrogen receptor, positive [23045]

Tumorigenic: Yes

Amelogenin: X,Y

CSF1PO: 10,11

D13S317: 10,12

D16S539: 11

DNA Profile (STR): D5S818: 11,12

D7S820: 9.1,10.3

THO1: 9

TPOX: 8,9

vWA: 16,18

Cytogenetic Analysis:

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## Cell Biology

ATCC® Number: **CRL-2066™**  Price: **\$429.00**

Designations: DMS 114

Depositors: OS Pettengill, G Sorenson

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology:

Source: **Organ:** lung  
**Disease:** carcinoma; small cell lung cancer

Cellular Products: adrenocorticotropin (adrenocorticotropic hormone, ACTH); bombesin; glucagon; 17 beta estradiol; oxytocin - neurophysin (OT-NP)

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.

Receptors: epidermal growth factor (EGF); complement (CR3)

Tumorigenic: Yes

Antigen Expression: Leu 7 +; My23 +; CD11b +

Amelogenin: X  
CSF1PO: 10,11  
D13S317: 13  
D16S539: 12

DNA Profile (STR): D5S818: 12  
D7S820: 10,11  
TH01: 8,9.3  
TPOX: 8,11  
vWA: 16,17

Age: 68 years

Gender: male

Ethnicity: Caucasian

The line was established from cells from a mediastinal biopsy of a patient with small cell carcinoma of the lung.

The patient had not received prior therapy.  
The cells express HLA class I and class II antigens.  
Comments: Early passages of the cells were contaminated with a bovine mycoplasma (*Acholeplasma laidlawii*) which was cured (prior to cryopreservation) with *A. laidlawii* antiserum and kanamycin.

Propagation:

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## Cell Biology

ATCC® Number: **CRL-2064™** [Order this Item](#) Price: **\$429.00**

Designations: DMS 153  
 Depositors: OS Pettengill, G Sorenson  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: monolayer of adherent clusters  
 Organism: *Homo sapiens* (human)  
 Morphology:  
**Organ:** lung  
 Source: **Disease:** carcinoma; small cell lung cancer  
**Derived from metastatic site:** liver  
 Cellular Products: adrenocorticotropin (adrenocorticotropic hormone, ACTH); bombesin; calcitonin; calcitonin gene related peptide (CGRP); oxytocin - neurophysin (OT-NP); 17 beta estradiol  
 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.  
 Restrictions: Note: These cells are distributed subject to the following: 1.) This cell line or its products must not be distributed to third parties. Commercial interests are the exclusive property of Dartmouth College. 2.) Any proposed commercial use of these cells must first be negotiated with Office of Technology Transfer, Dartmouth College, Hanover, NH, 03755. Tel: (603) 646-3675. 3.) In all papers reporting any use of these cells, or derived products, a direct reference will be made to the original publications.  
 Receptors: bombesin; epidermal growth factor (EGF); complement (CR3)  
 Tumorigenic: Yes  
 Antigen Expression: Leu 7 +; My23 +; CD11b +  
 Age: 44 years  
 Gender: male  
 Ethnicity: Caucasian  
 Comments: The line was established from cells from liver tissue taken at autopsy of a patient with small cell carcinoma of the lung. The patient had received prior therapy with cytoxan and methotrexate. The cells express HLA class I and class II antigens.  
 Propagation: **ATCC complete growth medium:** Waymouth's MB 752/1 medium, 90%; fetal bovine serum, 10%

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## Cell Biology

ATCC® Number: **HTB-119™**  Price: **\$279.00**

Designations: NCI-H69 [H69]  
 Depositors: AF Gazdar  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: suspension, multicell aggregates  
 Organism: *Homo sapiens* (human)  
 Morphology: floating aggregates

Source: **Organ:** lung  
**Disease:** carcinoma; small cell lung cancer  
 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.

Permits/Forms:

Receptors: insulin-like growth factor II (IGF II)  
 Tumorigenic: Yes  
 Oncogene: myc +; myb +; fes +; fms +; raf +; ras +

CSF1PO: 10, 12  
 D13S317: 12  
 D16S539: 11  
 D5S818: 11, 13  
 DNA Profile (STR): D7S820: 9  
 TH01: 8, 9  
 TPOX: 10  
 vWA: 16, 17  
 Amelogenin: XY

modal number = 76 to 78; range = 40 to 87  
 This is an aneuploid human male cell line. Monosomy of many of the normal chromosomes is noted as well as bisomy in this subtetraploid cell line; however, translocations and deletions involving many of the missing chromosomes are noted, and these chromosomal rearrangements appear to be stable and generally paired. Twelve marker chromosomes were identified including: der(16)t(1;16)(q21;q23), der(22)t(4;22)(q12;q13), der(12)t(11;12)(q23;p12), del(17)(p11), der(19)t(5;19)(? q21;q13) and others.

Cytogenetic Analysis:

Isoenzymes:

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## Cell Biology

ATCC® Number: **CRL-2195™**  Price: **\$429.00**

Designations: SHP-77  
 Depositors: AM Koros  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: suspension and loosely adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** lung  
**Disease:** carcinoma; small cell lung cancer  
**Cell Type:** large cell, variant;

Cellular Products: neural cell adhesion molecule (NCAM) NKH-1  
 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.

Permits/Forms:

Tumorigenic: Yes  
 Antigen Expression: Blood Type O; Rh +; CD56; CD57 (HNK-1,Leu-7)  
 Amelogenin: X  
 CSF1PO: 10,11  
 D13S317: 8  
 D16S539: 11  
 DNA Profile (STR): D5S818: 12  
 D7S820: 11  
 TH01: 7  
 TPOX: 9,11  
 vWA: 16

Age: 54 years  
 Gender: male  
 Ethnicity: Caucasian

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Comments:

## Cell Biology

ATCC® Number: **CRL-2095™**  Price: **\$429.00**

Designations: CAL 27  
 Depositors: C Cardona  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** tongue  
**Disease:** squamous cell carcinoma

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.

Isolation: **Isolation date:** 1982

Tumorigenic: Yes  
 Amelogenin: X  
 CSF1PO: 10,12  
 D13S317: 10,11  
 D16S539: 11,12

DNA Profile (STR): D5S818: 11,12  
 D7S820: 10  
 THO1: 6,9.3  
 TPOX: 8  
 vWA: 14,17

Cytogenetic Analysis: aneuploid; modal number = 43

Age: 56 years

Gender: male

Ethnicity: Caucasian

Comments:

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## Cell Biology

ATCC® Number: **CCL-138™** Order this Item Price: **\$329.00**

Designations: Detroit 562

Depositors: CS Stulberg

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology: epithelial

Source: **Organ:** pharynx  
**Disease:** carcinoma  
**Derived from metastatic site:** pleural effusion

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.

Virus Susceptibility: Human poliovirus 1  
Vesicular stomatitis virus

Amelogenin: X

CSF1PO: 11,13

D13S317: 12

D16S539: 11

DNA Profile (STR): D5S818: 11,12

D7S820: 8,10

THO1: 8,9

TPOX: 8,10

vWA: 16

Cytogenetic Analysis: Modal number = 64; range = 58 to 128  
A large subterminal marker chromosome, arm ratio 3:4, is found in 94% of the cells karyotyped. Five to 6 minute chromosomes are present in each cell.

Isoenzymes: G6PD, B

Age: adult

Gender: female

Ethnicity: Caucasian

Comments: The cells are positive for keratin by immunoperoxidase staining.

Propagation:

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## Cell Biology

ATCC® Number: **HTB-43™** Order this Item Price: **\$329.00**

Designations: FaDu  
 Depositors: SR Rangan  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 Morphology: epithelial

Source: **Organ:** pharynx  
**Disease:** squamous cell carcinoma

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.

Applications: transfection host ([Roche Transfection Reagents](#))

Tumorigenic: Yes  
 Amelogenin: None detected  
 CSF1PO: 12  
 D13S317: 8, 9  
 D16S539: 11

DNA Profile (STR): D5S818: 12  
 D7S820: 11, 12  
 TH01: 8  
 TPOX: 11  
 vWA: 15, 17, 18

Cytogenetic Analysis: (P16) hypodiploid to hypertriploid with modal number = 64

Isoenzymes: AK-1, 1  
 ES-D, 1  
 G6PD, B  
 GLO-I, 2  
 Me-2, 2  
 PGM1, 2  
 PGM3, 1

Age: 56 years  
 Gender: male  
 Ethnicity: Caucasian

Comments: The FaDu line was established in 1968 from a punch biopsy of an hypopharyngeal tumor removed from a Hindu patient. The established line was found to contain bundles of tonofilaments in the cell cytoplasm and desmosomal regions were prominent at cell boundaries.

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## Cell Biology

ATCC® Number: **CRL-1629™**  Price: **\$329.00**

Designations: SCC-9

Depositors: JG Rheinwald

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Homo sapiens* (human)

Morphology:

Source: **Organ:** tongue  
**Disease:** squamous cell carcinoma

Cellular Products: epidermal keratins; low levels of involucrin  
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.

Applications: transfection host ([Roche Transfection Reagents](#))

Tumorigenic: Yes  
Amelogenin: X,Y  
CSF1PO: 11  
D13S317: 9  
D16S539: 10,11

DNA Profile (STR): D5S818: 12  
D7S820: 8  
THO1: 8,9  
TPOX: 9,11  
vWA: 17

Age: 25 years

Gender: male

Comments: Growth of SCC-9 is enhanced by using a feeder layer of X-irradiated STO cells (ATCC 56-X).  
The cells do not grow well in semi-solid medium.

Propagation: **ATCC complete growth medium:** A 1:1 mixture of Dulbecco's modified Eagle's medium and Ham's F12 medium containing 1.2 g/L sodium bicarbonate, 2.5 mM L-glutamine, 15 mM HEPES and 0.5 mM sodium pyruvate supplemented with 400 ng/ml hydrocortisone, 90%; fetal bovine serum, 10%  
**Temperature:** 37.0°C

Subculturing:

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## Cell Biology

ATCC® Number: **CRL-1730™** Order this Item Price: **\$279.00**

Designations: HUV-EC-C  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Homo sapiens* (human)  
 endothelial

Morphology:



**Organ:** umbilical vein  
**Tissue:** vascular endothelium  
**Disease:** normal  
**Cell Type:** endothelial

Source:

Cellular Products: factor VIII [[23284](#)]

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.

Applications: transfection host ([technology from amaxa](#))

Tumorigenic: No

Amelogenin: X  
 CSF1PO: 11,12  
 D13S317: 9,11  
 D16S539: 11,12

DNA Profile (STR): D5S818: 11,12  
 D7S820: 8,12  
 TH01: 6,9.3  
 TPOX: 8,11  
 vWA: 16

Cytogenetic  
 Analysis:

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## Cell Biology

ATCC® Number: **CRL-2214™**  Price: **\$429.00**

Designations: MEF-1  
 Depositors: TE Willnow  
Biosafety Level: 2 [CELLS CONTAIN PAPOVAVIRUS ]  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: *Mus musculus* (mouse)  
 Morphology: fibroblast

Source: **Cell Type:** fibroblastSV40 transformed

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.

Age: embryo

The MEF-1 cell line was initiated in 1993 by transfection of mouse embryo fibroblasts with an SV40 coding plasmid. The cells are wild-type for the low density lipoprotein receptor related protein (LRP).

Comments: This cell line along with the PEA 10 (see ATCC [CRL-2215](#)) and PEA 13 (see ATCC [CRL-2216](#)) cell lines constitute a genetically defined system to study the endocytosis of ligands by the LRP. The above cell lines are the only available experimental system to study the effect of LRP deficiency because LRP deficient mouse embryos die in utero.

Propagation: **ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

**Temperature:** 37.0°C

**Protocol:** Remove medium, rinse flask with fresh 0.25% trypsin, 0.02% EDTA and remove trypsin, Add an additional 1 to 2 ml of trypsin solution, and allow the flask to sit at room temperature (or 37C) until the cells detach. Add fresh medium, aspirate and dispense into new flasks.

Subculturing: **Subcultivation Ratio:** A subcultivation ratio of 1:6 to 1:10 is recommended

**Medium Renewal:** Every 2 to 3 days

Preservation: Culture medium, 95%; DMSO, 5%

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## Cell Biology

ATCC® Number: **CRL-6475™**  Price: **\$279.00**

Designations: B16-F10

Biosafety Level: 1

Shipped: frozen

Medium & Serum: [See Propagation](#)

Growth Properties: adherent

Organism: *Mus musculus* (mouse)  
mixture of spindle-shaped and epithelial-like cells

Morphology:



Source: **Organ:** skin  
**Strain:** C57BL/6J  
**Disease:** melanoma

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.

Applications: transfection host ([technology from amaxa](#))  
**ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

Propagation: **Temperature:** 37.0°C  
**Atmosphere:** air, 95%; carbon dioxide (CO<sub>2</sub>), 5%

Subculturing:

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## Cell Biology

ATCC® Number: **CCL-61™** [Order this Item](#) Price: **\$279.00**

Designations: CHO-K1  
 Depositors: TT Puck  
Biosafety Level: 1  
 Shipped: frozen  
 Medium & Serum: [See Propagation](#)  
 Growth Properties: adherent  
 Organism: Cricetulus griseus (hamster, Chinese)  
 epithelial-like

Morphology:



Source: **Organ:** ovary

Permits/Forms:

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Isolation:

**Isolation date:** 1957

Applications:

transfection host ([Nucleofection technology from Lonza Roche Transfection Reagents](#))

Virus Resistance:

poliovirus 2; modoc virus; Button Willow virus

Cytogenetic Analysis:

Chromosome Frequency Distribution 50 Cells: 2n = 22.  
 Stemline number is hypodiploid.

Gender:

female

Comments:

The CHO-K1 cell line was derived as a subclone from the parental CHO cell line initiated from a biopsy of an ovary of an adult Chinese hamster by T. T. Puck in 1957. [22224]

The cells require proline in the medium for growth. [25976]

**ATCC complete growth medium:** The base medium for this cell line is ATCC-formulated F-12K Medium, Catalog No. 30-2004. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

Propagation:

**Temperature:** 37.0°C

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