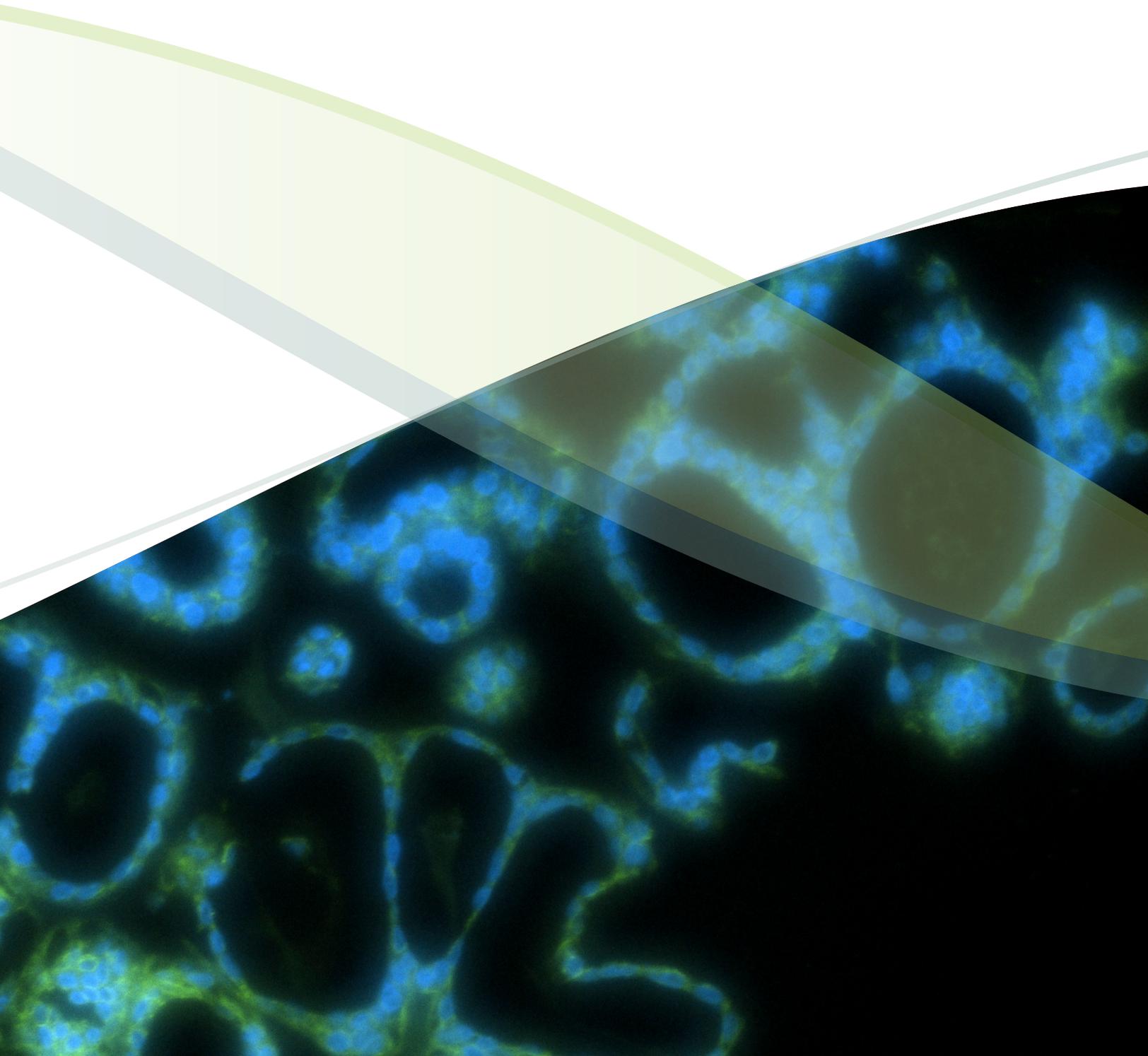




# Toxicology Portfolio



# CREDIBLE ASSAYS, INCREDIBLE RESULTS

As toxicologists, we are challenged to identify the adverse effects of a broad range of substances to protect people and the environment. It is critical that the standards and model organisms used in toxicological testing are reliable and authenticated. ATCC has the credible models that you need to perform standardized, reliable, and reproducible toxicology studies.

ATCC provides the cells, media, and reagents needed to explore renal, neural, airway, and skin toxicity for such applications as high-content screening, 3D culture, spheroid culture, permeability assays, metabolic stability and survival studies, transport activity measurement, and more. These toxicological tools can be used to identify responses to environmental insults or to screen pharmaceutical compounds.

## CONTINUOUS CELL LINES

ATCC is home to over 4,000 continuous human and animal cell lines that can be used to refine traditional cell-based experiments or construct high-throughput assays, reducing the need for in vivo studies. Our continuous cell lines are always authenticated so you can rest assured that your in vitro models will deliver experimental success.

## HUMAN PRIMARY CELLS

Human primary cells closely mimic the physiological state of cells in vivo and generate relevant data representing living systems. ATCC offers quality human primary cells matched with optimized growth media and supplements and a superior viability guarantee.

- Most cells expand to 15 population doublings
- Post-thaw viability greater than 70%
- All cells tested for positive and negative surface markers
- High cell purity guaranteed
- Additional donor information available

## HTERT-IMMORTALIZED PRIMARY CELLS

The best of both worlds: ATCC hTERT-immortalized primary cells are a breakthrough in cell biology research. hTERT-immortalized primary cells do not senesce after a few passages, thereby reducing the need to repurchase and initiate growth of primary cells. Unlike continuous cell lines, these cells exhibit a stable karyotype and genotype and retain many of the physiological characteristics of the parental cells.

- In vivo biologies observed at high passage
- Average lifespan 5 times longer than primary cells
- Gene expression similar to the parental cell
- Zero donor (lot-to-lot) variability

## CYTOTOXICITY

Find potential viability issues early with ATCC's wide array of biological solutions such as rodent and human cell lines, primary cells, and stem cells. We also offer the MTT Cell Proliferation Kit and XTT Cell Proliferation Kit to measure cell viability and growth.

**Table 1: Human Primary Cells**

ATCC® No.	Designation
<a href="#">PCS-100-013™</a>	Human Umbilical Vein Endothelial Cells
<a href="#">PCS-201-010™</a>	Normal Human Dermal Fibroblasts (Neonatal)
<a href="#">PCS-201-012™</a>	Normal Human Dermal Fibroblasts (Adult)
<a href="#">PCS-400-010™</a>	RPTEC Human Renal Proximal Tubular Epithelial Cells
<a href="#">PCS-500-010™</a>	Human Umbilical Cord-derived Mesenchymal Stem Cells

**Table 2: Cell Proliferation Assay Kits**

ATCC® No.	Designation	Application
<a href="#">30-1010K™</a>	MTT Cell Proliferation Assay Kit	Spectrophotometric measurement of cell viability and growth

## ABSORPTION, DISTRIBUTION, METABOLISM, AND ELIMINATION (ADME) ASSAYS

Testing for absorption, distribution, metabolism, and elimination is crucial to moving your product to market. Get closer results to those observed in vivo and rule out possible toxicities faster using our entire ADME portfolio, featuring our hTERT-immortalized OAT1-, OCT2-, and OAT3-expressing kidney transporter cells. ATCC is here to support your preclinical research with our renal and hepatic models to be used in metabolic stability, metabolite identification, and drug-drug interaction assays.

**Table 3: Hepatic cells**

ATCC® No.	Designation	Product Description	Disease State
<a href="#">CRL-2254™</a>	AML-12	<i>Mus musculus</i> ; liver; primary cells	Normal
<a href="#">CRL-2643™</a>	ZFL [ZF-L]	<i>Danio rerio</i> ; liver; immortalized cell line	Normal
<a href="#">CRL-10741™</a>	C3A [HepG2/C3A, derivative of Hep G2]	<i>Homo sapiens</i> ; liver; immortalized cell line	Hepatocellular carcinoma
<a href="#">CRL-11233™</a>	THLE-3	<i>Homo sapiens</i> ; liver; immortalized cell line	Hepatocellular carcinoma
<a href="#">HB-8065™</a>	Hep G2	<i>Homo sapiens</i> ; liver; immortalized cell line	Hepatocellular carcinoma

**Table 4: Renal Cell Lines**

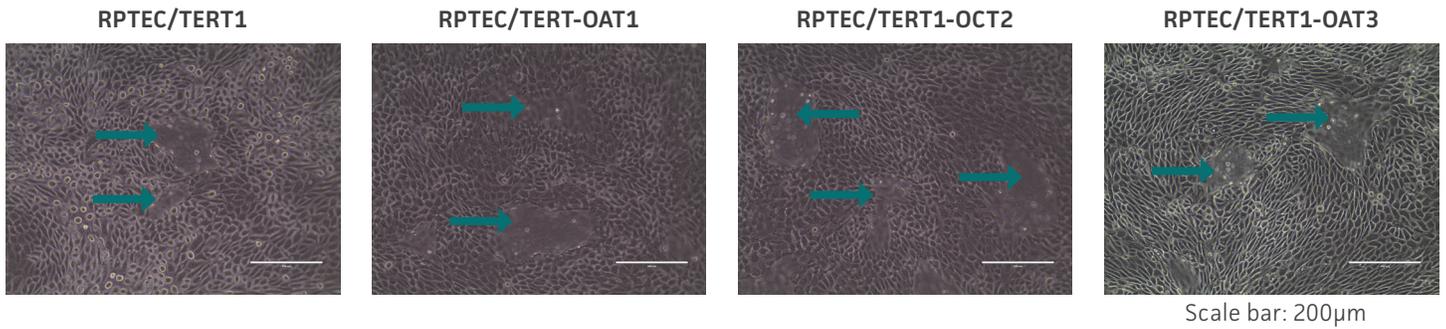
ATCC® No.	Designation	Source Tissue
<a href="#">CRL-1573™</a>	293 [HEK-293]	Embryonic kidney
<a href="#">CRL-2190™</a>	HK-2	Kidney, cortex/proximal tubule
<a href="#">CRL-3213™</a>	Phoenix-AMPHO	Kidney
<a href="#">CRL-11268™</a>	293T/17 [HEK-293T/17]	Embryonic kidney
<a href="#">CRL-11268G-1™</a>	OAT1 HEK 293T/17	Embryonic kidney stably overexpresses OAT1
<a href="#">HTB-44™</a>	A-498	Kidney carcinoma
<a href="#">HTB-46™</a>	Caki-1	Kidney; derived from metastatic site: skin

**Table 5: Primary Renal Cells with Optimized Growth Media and Supplements**

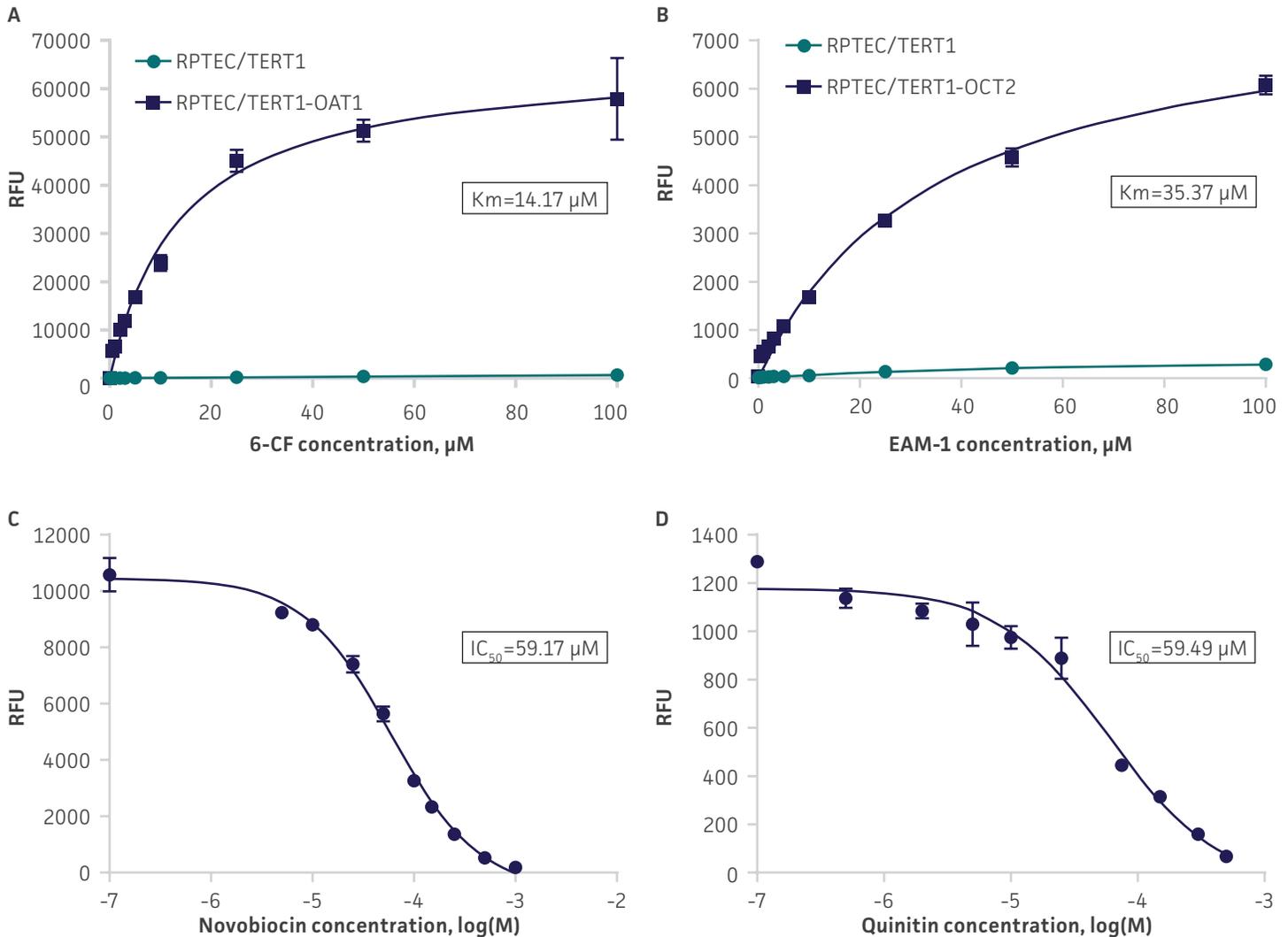
ATCC® No.	Designation	Growth kit	Basal medium
<a href="#">PCS-400-010™</a>	Renal Proximal Tubule Epithelial Cells	Renal Epithelial Cell Growth Kit (ATCC® <a href="#">PCS-400-040™</a> )	Renal Epithelial Cell Basal Medium (ATCC® <a href="#">PCS-400-030™</a> )
<a href="#">PCS-400-011™</a>	Renal Cortical Epithelial Cells		
<a href="#">PCS-400-012™</a>	Renal Mixed Epithelial Cells		

**Table 6: hTERT-Immortalized Primary Renal Cells, Genetically Modified Models, and Optimized Media and Growth Supplement**

ATCC® No.	Designation	Growth kit	Basal medium
<a href="#">CRL-4031™</a>	RPTEC/TERT1	hTERT-immortalized RPTEC Growth Kit (ATCC® <a href="#">ACS-4007™</a> )	DMEM: F-12 Medium (ATCC® <a href="#">30-2006™</a> )
<a href="#">CRL-4031-OAT1™</a>	RPTEC/TERT1 OAT1		
<a href="#">CRL-4031-OCT2™</a>	RPTEC/TERT1 OCT2		
<a href="#">CRL-4031-OAT3™</a>	RPTEC/TERT1 OAT3		



**Figure 1: Kidney transporter over-expressing cell lines as compared to parental RPTEC/TERT1 cell lines.** RPTEC/TERT1 SLC transporter cells were subjected to dome formation assay. Epithelial barrier formation is not compromised in OAT1-, OCT2-, and OAT3-expressing cell lines, as demonstrated by the formation of dome-like structures (arrows) caused by solute transport across an intact epithelial barrier.



**Figure 2: Drug kinetic profiles of RPTEC/TERT1-OAT1 and RPTEC/TERT1-OCT2 transporter cells.** (A) Solute uptake activity of RPTEC/TERT1-OAT1 cells was assessed using 6-CF as a substrate. 6-CF uptake increases with increasing 6-CF concentration in OAT1-expressing cells but not in parental RPTEC/TERT1 cells (n=3), indicating that the observed transport is due to OAT1 expression. (B) Solute uptake activity of RPTEC/TERT1-OCT2 cells was assessed by using EAM-1 as substrate. EAM-1 uptake increases with increasing amounts of EAM-1 in OCT2-expressing cells but not in parental RPTEC/TERT1 cells (n=3), indicating that the observed solute transport is due to OCT2 expression. (C) OAT1-expressing cells were exposed to increasing concentrations of the known OAT1 inhibitor novobiocin while 6-CF concentration and uptake time were held constant at 3  $\mu\text{M}$  and 20 minutes (n=3). (D) OCT2-expressing cells were exposed to increasing concentrations of the known OCT2 inhibitor quinitin while EAM-1 concentration and uptake time were held constant at 5  $\mu\text{M}$  and 20 minutes (n=3). The resulting inhibition curves indicate that OAT1 and OCT2 have physiologically relevant transport activity when overexpressed in RPTEC/TERT1 cells.

## NEUROTOXICITY

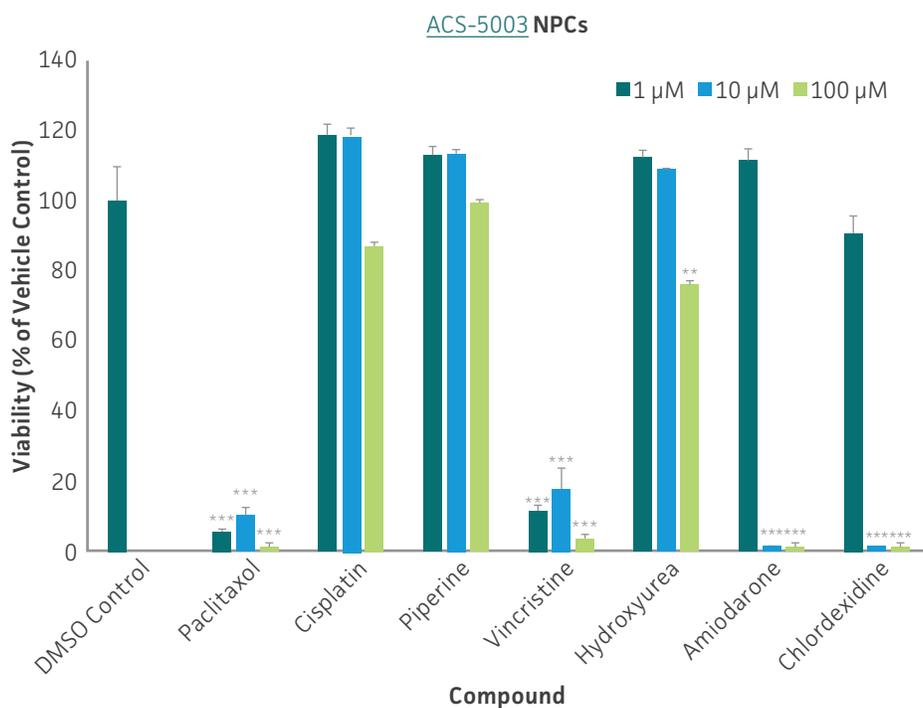
Cells of the nervous system are well-specialized and rarely undergo mitosis once differentiated. ATCC offers many cell lines derived from neural tissues and neural progenitor cells that can be easily differentiated into those needed for neurotoxicity studied. Work with differentiating or terminally differentiated neurons, astrocytes, and oligodendrocytes sooner-yield experimental results faster.

**Table 7: Human and Animal Neural Tissue-Derived Cell Lines**

ATCC® No.	Designation	Comments
<a href="#">ACS-1018™</a>	BT142 mut/-	Brain; oligoastrocytoma grade III
<a href="#">CCL-107™</a>	C6	Brain, glial; glioma
<a href="#">CRL-1721™</a>	PC-12	Adrenal; pheochromocytoma
<a href="#">CRL-2266™</a>	SH-SY5Y	Bone marrow, epithelial; neuroblastoma
<a href="#">CRL-2927™</a>	LUHMES	Brain, embryonic mesencephalon
<a href="#">CRL-2941™</a>	S16	Sciatic nerve, epithelial
<a href="#">CRL-2943™</a>	S16Y	Sciatic nerve, schwann cell
<a href="#">CRL-10742™</a>	HCN-2	Cortical neuron; encephalitis

**Table 8: Neural Progenitor Cells with Media Supplement Kits**

ATCC® No.	Designation
<a href="#">ACS-3003™</a>	NPC Growth Kit
<a href="#">ACS-3004™</a>	NPC Dopaminergic Differentiation Kit
<a href="#">ACS-5001™</a>	NPCs derived from ATCC-DYS0530 Parkinson's Disease ( <a href="#">ACS-1013</a> )
<a href="#">ACS-5003™</a>	NPCs derived from ATCC-BXS0117 ( <a href="#">ACS-1031</a> )
<a href="#">ACS-5004™</a>	NPCs derived from ATCC-BYS0112 ( <a href="#">ACS-1026</a> )
<a href="#">ACS-5005™</a>	Neural Progenitor Cells derived from XCL-1 DCX-GFP
<a href="#">ACS-5006™</a>	Neural Progenitor Cells derived from XCL-1 GFAP-Nanoluc®-Halotag®
<a href="#">ACS-5007™</a>	Neural Progenitor Cells derived from XCL-1 MAP2-Nanoluc®-Halotag®



**Figure 3: Dose response curves for cell viability of NPCs treated with paclitaxel, cisplatin, piperine, vincristine, chlorhexidine, amiodarone, and hydroxyurea for two days.** Paclitaxel, vincristine, and amiodarone significantly decreased viability ( $p < 0.01$ ) of NPCs ( $n=3$ ,  $*p < 0.05$ ,  $**p < 0.01$ ,  $***p < 0.001$  vs. DMSO control, Student's T-test).

## SKIN CORROSION, SENSITIZATION, AND IRRITATION TESTING

ATCC offers a wide selection of cell lines, primary cells, and hTERT-immortalized cells for modeling of the skin. In addition, we supply media and supplements that support cell culture conditions in the presence or absence of serum. These products can be utilized to create 3D skin models or used in basic assays that comply with OECD standards.

**Table 9: Human Cell Lines**

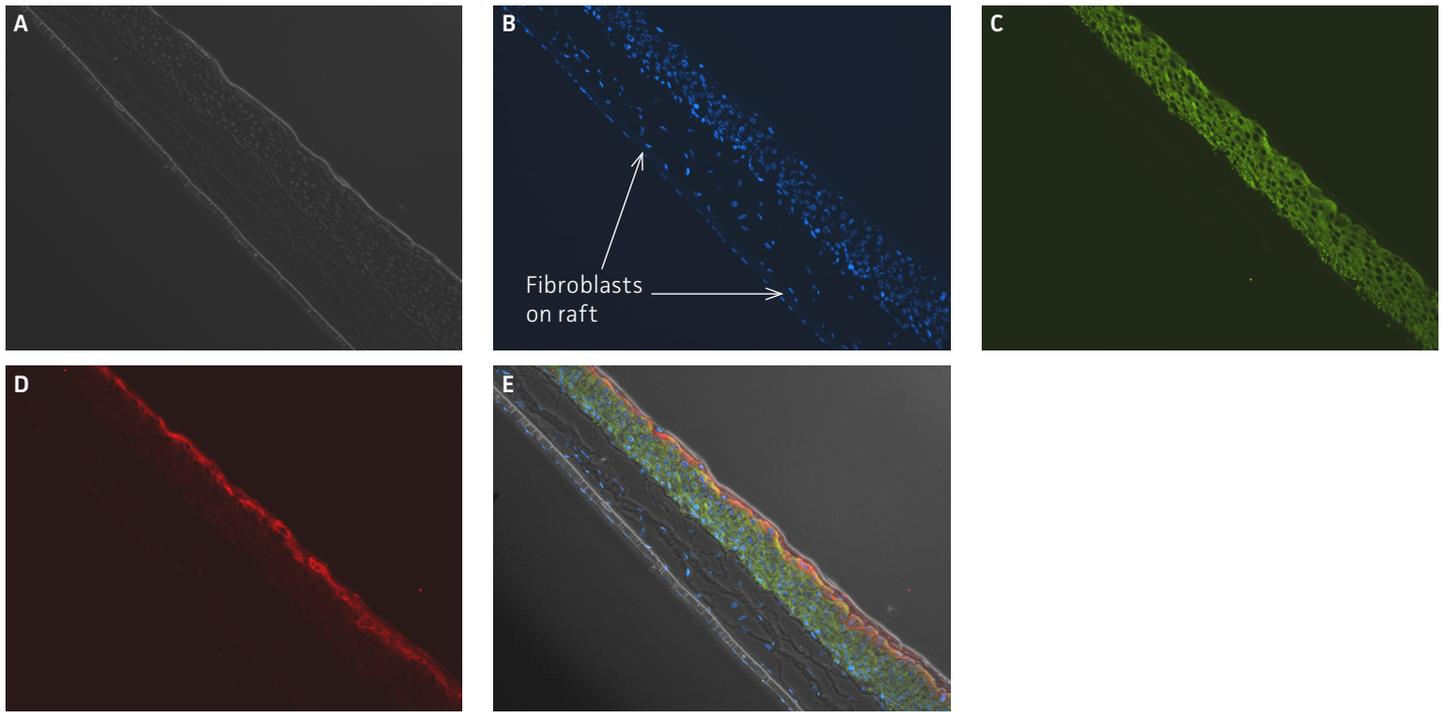
ATCC® No.	Designation	Species	Cell Type and Disease State
<a href="#">CRL-1872™</a>	A375.S2	<i>Homo sapiens</i>	malignant melanoma
<a href="#">CRL-2309™</a>	CCD 1106 KERTr	<i>Homo sapiens</i>	keratinocyte
<a href="#">CRL-2310™</a>	CCD 1102 KERTr	<i>Homo sapiens</i>	keratinocyte; human papillomavirus 16
<a href="#">CRL-2404™</a>	HEK001	<i>Homo sapiens</i>	keratinocyte
<a href="#">CRL-2500™</a>	A7 [M2A7]	<i>Homo sapiens</i>	melanoma
<a href="#">CRL-3232™</a>	VMM917	<i>Homo sapiens</i>	melanoma, Stage IV; malignant
<a href="#">CRL-9446™</a>	CHL-1	<i>Homo sapiens</i>	melanoma
<a href="#">HTB-72™</a>	SK-MEL-28	<i>Homo sapiens</i>	malignant melanoma

**Table 10: Human Primary Epidermal Cells**

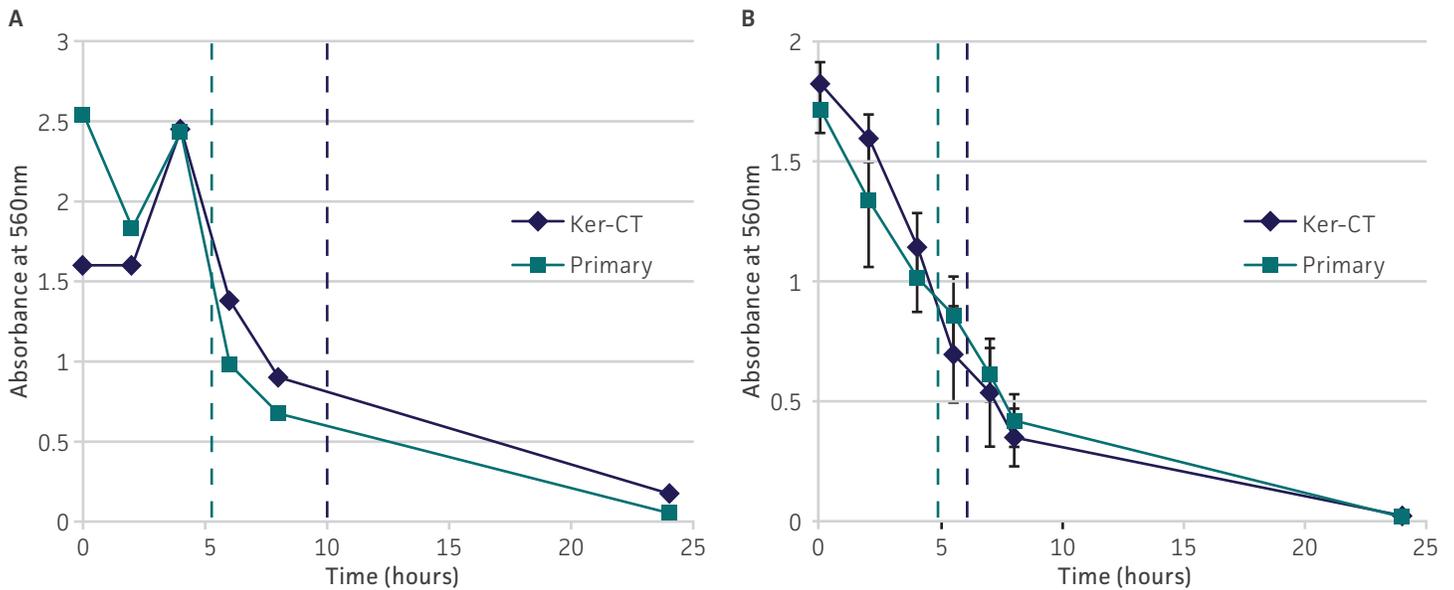
Cell Type	Product Name	ATCC® No.	Growth Kit	Basal Media
Keratinocytes	Epidermal Keratinocytes; Adult	<a href="#">PCS-200-011™</a>	Keratinocyte Growth Kit (ATCC® No. <a href="#">PCS-200-040™</a> )	Dermal Cell Basal Medium (ATCC® No. <a href="#">PCS-200-030™</a> )
Keratinocytes	Epidermal Keratinocytes; Neonatal Foreskin	<a href="#">PCS-200-010™</a>	Keratinocyte Growth Kit (ATCC® No. <a href="#">PCS-200-040™</a> )	Dermal Cell Basal Medium (ATCC® No. <a href="#">PCS-200-030™</a> )
Melanocytes	Epidermal Melanocytes; Adult	<a href="#">PCS-200-013™</a>	Melanocyte Growth Kit (ATCC® No. <a href="#">PCS-200-041™</a> )	Dermal Cell Basal Medium (ATCC® No. <a href="#">PCS-200-030™</a> )
Melanocytes	Epidermal Melanocytes; Neonatal Foreskin	<a href="#">PCS-200-012™</a>	Adult Melanocyte Growth Kit (ATCC® No. <a href="#">PCS-200-042™</a> )	Dermal Cell Basal Medium (ATCC® No. <a href="#">PCS-200-030™</a> )
Fibroblasts	Dermal Fibroblasts; Adult	<a href="#">PCS-201-012™</a>	Fibroblast Growth Kit, Serum-free (ATCC® No. <a href="#">PCS-201-040™</a> ) or Fibroblast Growth Kit, Low Serum (ATCC® No. <a href="#">PCS-201-041™</a> )	Fibroblast Basal Medium (ATCC® No. <a href="#">PCS-201-030™</a> )
Fibroblasts	Dermal Fibroblasts; Neonatal	<a href="#">PCS-201-010™</a>	Fibroblast Growth Kit, Serum-free (ATCC® No. <a href="#">PCS-201-040™</a> ) or Fibroblast Growth Kit, Low Serum (ATCC® No. <a href="#">PCS-201-041™</a> )	Fibroblast Basal Medium (ATCC® No. <a href="#">PCS-201-030™</a> )
Fibroblasts	Dermal Fibroblasts; Neonatal, Mitomycin C-treated	<a href="#">PCS-201-011™</a>	Fibroblast Growth Kit, Serum-free (ATCC® No. <a href="#">PCS-201-040™</a> ) or Fibroblast Growth Kit, Low Serum (ATCC® No. <a href="#">PCS-201-041™</a> )	Fibroblast Basal Medium (ATCC® No. <a href="#">PCS-201-030™</a> )

**Table 11: hTERT-Immortalized Primary Cells**

ATCC® No.	Designation	Tissue	Disease State
<a href="#">CRL-4001™</a>	BJ-5ta	Foreskin, fibroblast	normal
<a href="#">CRL-4005™</a>	TelCOFS02MA	Skin, fibroblast	cerebro-oculo-facio-skeletal syndrome
<a href="#">CRL-4048™</a>	Ker-CT	Foreskin, keratinocyte	normal
<a href="#">CRL-4059™</a>	hTERT-immortalized Dermal Melanocyte	Skin, female	normal
<a href="#">CRL-4064™</a>	hTERT Neonatal Dermal Melanocyte	Skin, female	normal



**Figure 4: Micrograph of hTERT-immortalized Primary Keratinocytes (Ker-CT) at 11 days post airlift.** A) Phase contrast micrograph at 10x magnification. Panels B-E show keratinocytes stained with (B) DAPI, (C) anti-KRT14 antibodies, (D) anti-filaggrin antibodies, or (E) an overlay.



**Figure 5: Treatment of skin models with 1% Triton X-100 to test the ability of these models to resist penetration.** Ker-CT or primary keratinocytes with (A) collagen raft and (B) without collagen raft were treated with 1% Triton™ X-100 (Dow) at different durations. Viability was measured with MTT (ATCC® No. [30-1010K™](#)). Dashed lines indicate the IC50, which are within the Organization for Economic Co-operation Development (OECD) guidelines of 4-10 hours for functional human skin models.

## GENOTOXICITY

In vitro genotoxicity testing is made easy with ATCC materials. We offer the cells and bacteria you need for OECD-validated assays such as the bacterial reverse mutation test (Ames test), the in vitro mammalian chromosomal aberration test, and the in vitro mammalian cell micronucleus test.

**Table 12: Human and Animal Cell Lines**

ATCC® No.	Designation	Species	Comments
<a href="#">CCL-61™</a>	CHO-K1	<i>Cricetulus griseus</i>	epithelial-like ovary cell line
<a href="#">CCL-93™</a>	V79-4	<i>Cricetulus griseus</i>	lung, fibroblast
<a href="#">CRL-1935™</a>	CHL/IU [CHL-11]	<i>Cricetulus griseus</i>	lung, fibroblast, female, newborn
<a href="#">CRL-8015™</a>	TK6	<i>Homo sapiens</i>	lymphoblast
<a href="#">CRL-9518™</a>	L5178Y TK+/- Clone (3.7.2C)	<i>Mus musculus</i>	lymphoblast; lymphoma

**Table 13: Bacteria**

ATCC® No.	Species	Designation
<a href="#">BAA-2720™</a>	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium	LT2 TA98
<a href="#">BAA-2721™</a>	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium	LT2 TA100
<a href="#">BAA-2722™</a>	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium	LT2 TA102
<a href="#">29629™</a>	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium	TA1535
<a href="#">29630™</a>	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium	TA1537
<a href="#">49979™</a>	<i>Escherichia coli</i>	WP2 uvrA

## RESPIRATORY TOXICITY

ATCC® offers primary airway epithelial cells, smooth muscle cells (SMCs), and fibroblasts, as well as growth media and media supplements for in vitro models to boost the scientific relevance of upper respiratory studies. Our materials make it simple to test for tissue variability, cytotoxicity, and more.

**Table 14: Human Cell Lines**

ATCC® No.	Designation	Comments
<a href="#">CCL-153™</a>	HFL1	Lung
<a href="#">CCL-185™</a>	A549	Lung
<a href="#">CRL-1848™</a>	NCI-H292	Lung, mucoepidermoid pulmonary carcinoma
<a href="#">CRL-5826™</a>	NCI-H226	Lung, squamous cell carcinoma, mesothelioma
<a href="#">CRL-9609™</a>	BEAS-2B	Lung, bronchial
<a href="#">HTB-55™</a>	Calu-3	Lung, epithelial, adenocarcinoma
<a href="#">HTB-174™</a>	NCI-H441	Lung, papillary adenocarcinoma

**Table 15: Human Primary Airway Cells; Normal**

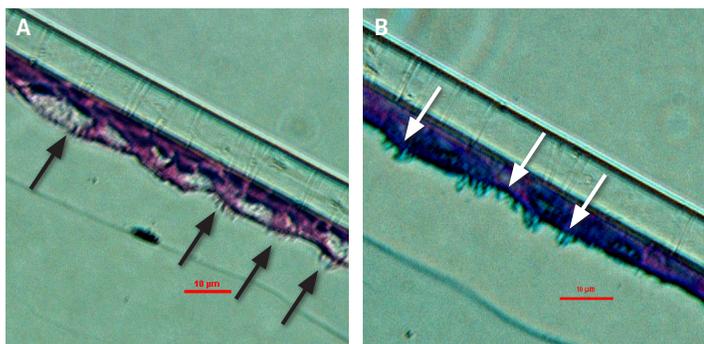
ATCC® No.	Designation	Growth kit	Basal medium
<a href="#">PCS-130-010™</a>	Lung Smooth Muscle Cells	Vascular Smooth Muscle Cell Growth Kit (ATCC® <a href="#">PCS-100-042™</a> )	Vascular Cell Basal Medium (ATCC® <a href="#">PCS-100-030™</a> )
<a href="#">PCS-130-011™</a>	Bronchial/Tracheal Smooth Muscle Cells		
<a href="#">PCS-201-013™</a>	Lung Fibroblasts	Fibroblast Growth Kit, Low Serum (ATCC® <a href="#">PCS-201-041™</a> )	Fibroblast Basal Medium (ATCC® <a href="#">PCS-201-030™</a> )
<a href="#">PCS-301-010™</a>	Small Airway Epithelial Cells		
<a href="#">PCS-300-010™</a>	Bronchial/Tracheal Epithelial Cells	Bronchial Epithelial Cell Growth kit (ATCC® <a href="#">PCS-300-040™</a> )	Airway Epithelial Cell Basal Medium (ATCC® <a href="#">PCS-300-030™</a> )
<a href="#">PCS-300-015™</a>	Primary Lobar Epithelial Cells		

**Table 16: Human Primary Airway Cells; Disease**

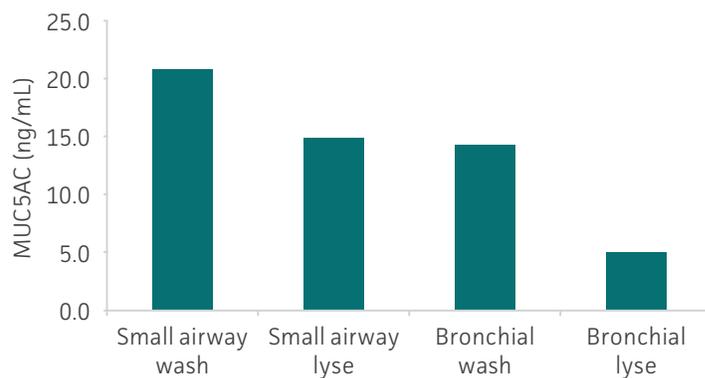
ATCC® No.	Designation	Growth kit	Basal medium
<a href="#">PCS-201-015™</a>	Lung Fibroblasts; Asthma	Fibroblast Growth Kit, Low Serum (ATCC® <a href="#">PCS-201-041™</a> )	Fibroblast Basal Medium (ATCC® <a href="#">PCS-201-030™</a> )
<a href="#">PCS-201-016™</a>	Lung Fibroblasts; Cystic Fibrosis		
<a href="#">PCS-201-017™</a>	Lung Fibroblasts; COPD		
<a href="#">PCS-201-020™</a>	Lung Fibroblast; Fibrosis		
<a href="#">PCS-300-011™</a>	Bronchial/Tracheal Epithelial Cells; Asthma	Bronchial Epithelial Cell Growth kit (ATCC® <a href="#">PCS-300-040™</a> )	Airway Epithelial Cell Basal Medium (ATCC® <a href="#">PCS-300-030™</a> )
<a href="#">PCS-300-013™</a>	Bronchial/Tracheal Epithelial Cells; COPD		
<a href="#">PCS-300-014™</a>	Bronchial/Tracheal Epithelial Cells; Fibrosis		
<a href="#">PCS-301-011™</a>	Small Airway Epithelial Cells; Asthma		
<a href="#">PCS-301-013™</a>	Small Airway Epithelial Cells; COPD		
<a href="#">PCS-301-014™</a>	Small Airway Epithelial Cells; Fibrosis		

**Table 17: hTERT-Immortalized Primary Airway Cells**

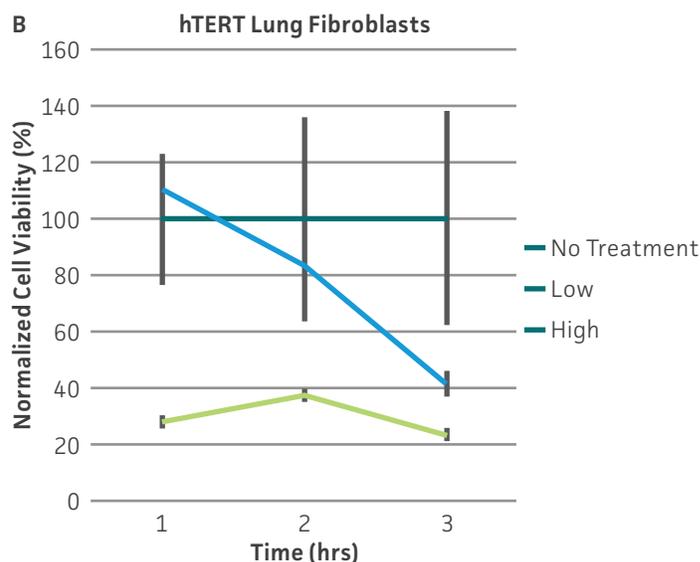
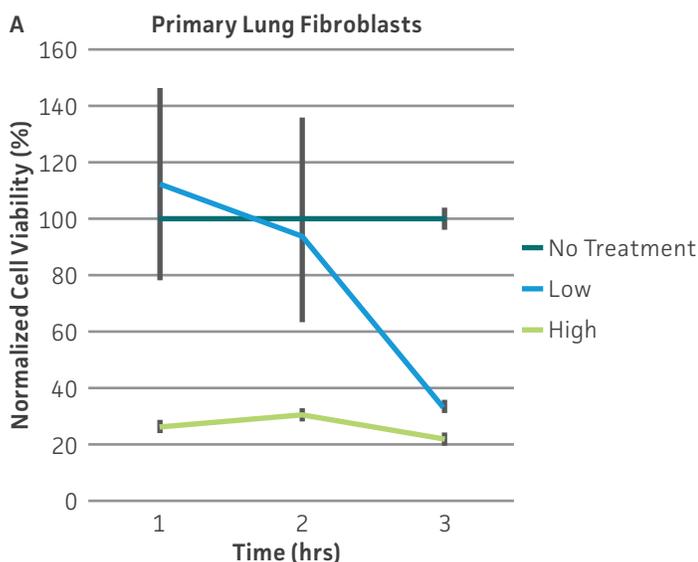
ATCC® No.	Designation	Comments
<a href="#">CRL-4011™</a>	NuLi-1	Lung, epithelium; normal
<a href="#">CRL-4013™</a>	CuFi-1	Lung, epithelial; cystic fibrosis
<a href="#">CRL-4015™</a>	CuFi-4	Lung, bronchial; cystic fibrosis
<a href="#">CRL-4016™</a>	CuFi-5	Lung, epithelial; cystic fibrosis
<a href="#">CRL-4017™</a>	CuFi-6	Lung, bronchial; cystic fibrosis
<a href="#">CRL-4050™</a>	HSAEC1-KT	Lung, small airway; normal
<a href="#">CRL-4051™</a>	HBEC3-KT	Lung, bronchial; normal



**Figure 6: Primary HBECS form differentiated airway epithelial structures in an air-liquid interface cell culture model.** Primary bronchial/tracheal epithelial cells at 28 days post airlift, and then stained with A) H&E, indicating cilia (black arrows) and goblet cells. B) Cross sections of the cells reveal PAS/Alcian blue stained-vesicles (white arrows), which suggest mucus synthesis. These results have also been observed in primary small airway cells.



**Figure 7: Differentiated primary respiratory epithelial cells secrete mucus.** Small airway and bronchial/tracheal epithelial cells were grown in airlift 3D culture as in Figure 6. MUC5AC (an indicator of mucus secretion) was monitored via ELISA from the supernatant after a PBS wash or from the lysate of the cells. The observed expression and secretion of MUC5AC, coupled with the airway-type structures seen in Figure 6 suggests that primary airway cells can be used as an in vitro model of the respiratory lining.



**Figure 8: Viability of primary and hTERT-immortalized primary lung fibroblasts treated with chlorhexidine (CHX).** Fibroblasts were treated with low (1 µM) and high (10 µM) doses of CHX for 1 to 3 hours. After treatment, cells were washed, incubated with a resazurin-based reagent, and viability was assessed using a fluorescence plate reader. Data was normalized to untreated cells. Both (A) primary and (B) hTERT-immortalized fibroblasts respond to CHX in a dose- and time-dependent manner, indicating that hTERT-immortalized fibroblasts lend physiological relevance to toxicity testing.

## IMMUNOTOXICITY

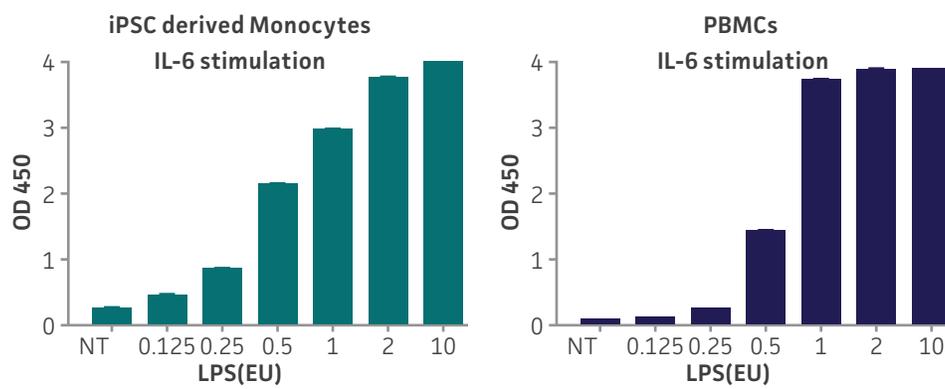
Immunotoxicity testing is a vital step to ensure the safety of a product, especially for medical devices. New in vitro methods can help identify immunosuppressants and immunostimulants as well as hypersensitivity and autoimmunity before you spend valuable time and resources on in vivo methods. ATCC offers high-quality cells that can be used for immunotoxicity tests.

**Table 18: Human Cell Lines**

ATCC® No.	Designation	Species	Cell Type and Disease State
CCL-246™	KG-1	<i>Homo sapiens</i>	Macrophage; acute myelogenous leukemia
CRL-1593.2™	U-937	<i>Homo sapiens</i>	Monocyte; histiocytic lymphoma
CRL-2407™	NK-92	<i>Homo sapiens</i>	Natural killer cell; malignant non-Hodgkin's lymphoma
TIB-71™	RAW 264.7	<i>Mus musculus</i>	Macrophage; Abelson murine leukemia virus-induced tumor
TIB-202™	THP-1	<i>Homo sapiens</i>	Monocyte; acute monocytic leukemia

**Table 19: Human Primary Immune Cells**

ATCC® No.	Designation	Availability
<a href="#">ACS-7010™</a>	iPSC-derived Mesenchymal Stem Cells, BYS0112	Available
<a href="#">ACS-7020™</a>	iPSC-derived CD34+ Cells, BXS0117	Available
<a href="#">ACS-7030™</a>	iPSC-derived Monocytes, DYS0100	Available
<a href="#">PCS-800-010™</a>	Peripheral Blood CD14+ Monocytes	Available
<a href="#">PCS-800-011™</a>	Peripheral Blood Mononuclear Cells	Available
<a href="#">PCS-800-012™</a>	Bone Marrow CD34+ Cells	Available
<a href="#">PCS-800-013™</a>	Bone Marrow Mononuclear Cells	Available
<a href="#">PCS-800-014™</a>	Cord Blood CD34+ Cells	Available
<a href="#">PCS-800-016™</a>	Peripheral Blood CD4+ Helper T Cells	Available
<a href="#">PCS-800-017™</a>	Peripheral Blood CD8+ Cytotoxic T Cells	Available
<a href="#">PCS-800-018™</a>	Peripheral Blood CD19+ B Cells	Available
<a href="#">PCS-800-019™</a>	Peripheral Blood CD56+ Natural Killer Cells	Available



**Figure 9: iPSC-derived Monocytes (ATCC® [ACS-7030™](#)) can be used for conducting the monocyte activation test (MAT) for detecting endotoxins.** iPSC-derived monocytes or PBMCs (ATCC® [PCS-800-011™](#)) were treated with the indicated concentrations of lipopolysaccharide (LPS), and secretion of the pro-inflammatory cytokine interleukin 6 (IL-6) was monitored. The concentration-dependent increase in IL-6 indicates the usefulness of iPSC-derived monocytes for developing cell-based endotoxin detection assays.

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