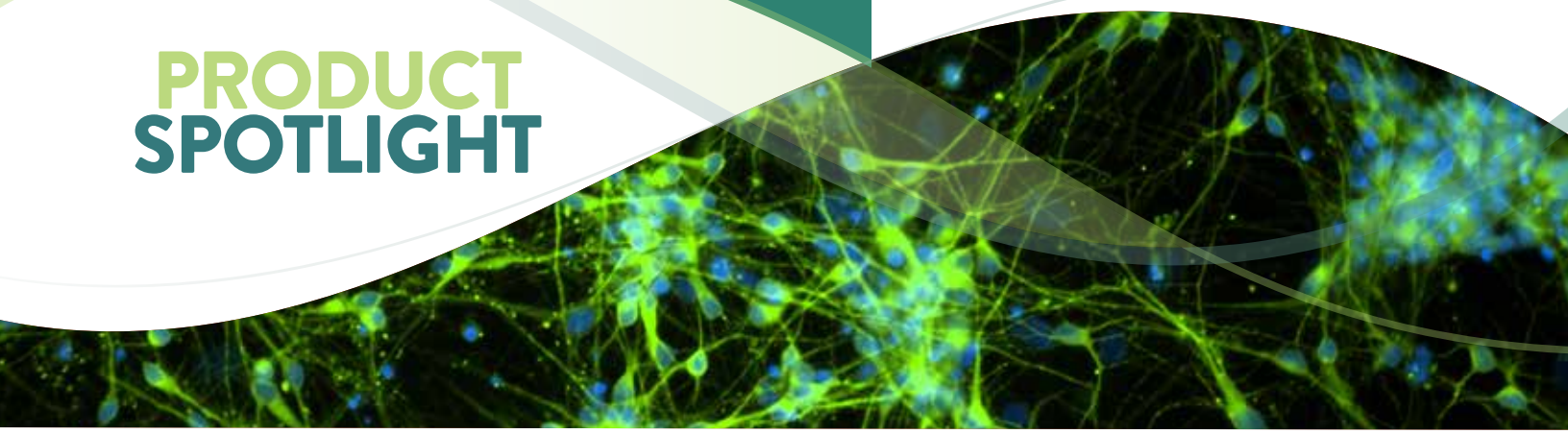
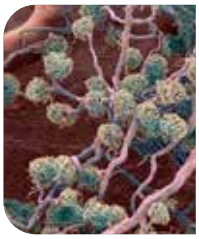
ATCC

PRODUCT SPOTLIGHT



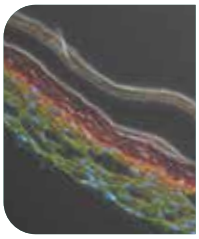
TOXICOLOGY TOOLS

ATCC provides the tools needed to explore lung, skin, cardiovascular, gastro-enteric, liver, kidney, and neural toxicity for such applications as high-content screening, 3D culture, spheroid culture, permeability assays, metabolic stability and survival, and more. We offer 5,000 continuous human and animal cell lines, and human primary cells representing all of the organs and tissues of the body. We also provide cell viability assays to identify responses to environmental insults or to screen pharmaceutical compounds. Some of our featured toxicology products include:



KIDNEY CELL MODELS

OAT1-, OCT2, and OAT3-expressing hTERT-immortalized RPTECs
OAT1-expressing HEK 293T/17
Continuous Cell Lines, Growth Media, and Supplements
www.atcc.org/tox

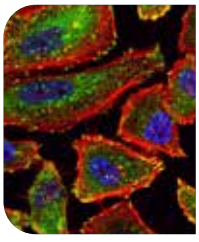


COMPLETE PRIMARY CELL SOLUTIONS

Human Airway, Renal, Epidermal, and More
Complete Growth Media and Supplements
hTERT-immortalized Primary Cells
www.atcc.org/primarycells

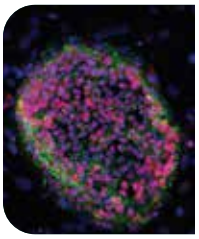
CELL HEALTH & VIABILITY ASSAYS

MTT and XTT Assays
Mycoplasma Detection Kit
www.atcc.org/cellhealth



TRADITIONAL CELL LINES

HepG2
SH-SY5Y
Caco-2
Thousands more
www.atcc.org/cancer



STEM CELL SOLUTIONS

Mesenchymal Stem Cells
Neural Progenitor Cells
Induced Pluripotent Stem Cells
Serum- and Feeder-free Media
iPSC-derived Primary Cells
www.atcc.org/stemcells

ANGIOGENESIS RESOURCES

Primary Endothelial and Smooth Muscle Cells
Cardiovascular Cell Lines
Cell Basement Membrane Gel
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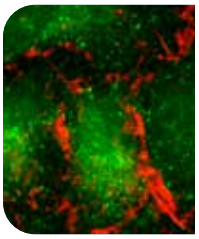

CRISPR/CAS9-GENE EDITED ISOGENIC CELL LINES

EML4-ALK Fusion A549 Isogenic Cell Line
KRAS, NRAS or MEK Mutant-A375 Isogenic Cell Line
IDH1 Mutant-U-87 Isogenic Cell Line
IDH2 Mutant-TF-1 Isogenic Cell Line
www.atcc.org/isogenic

SERVICES

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Cell Line Authentication
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OAT1-HEK293T/17 (ATCC® CRL-11268G-1™) cells are a very useful in vitro tool for testing the regulation of OAT1 membrane transporter activity in kidney cells[1]

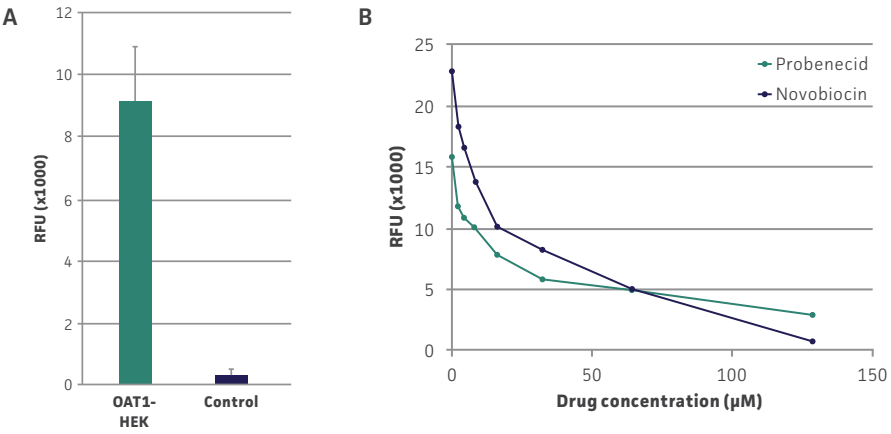
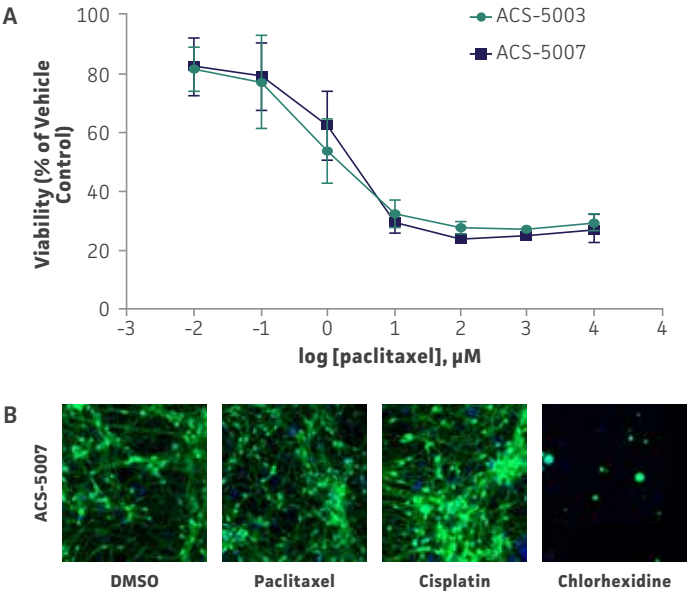


Figure 1: A) OAT1-HEK293T/17 cells express 20 fold more OAT1 than kidney lysates and were able to uptake more 5-CF than controls. B) This uptake was sensitive to two OAT1 inhibitors, probenecid and novobiocin.

Undifferentiated Neural Progenitor Cells (NPCs) and NPC-derived neurons provide an unlimited resource for in vitro disease modeling, toxicity screening, and drug screening. The figures below indicate three methods of monitoring neurotoxicity using normal NPCs (ATCC® ACS-5003™) and NPCs Derived from XCL-1 MAP2p-Nanoluc® Halotag® (ATCC® ACS-5007™).[2]



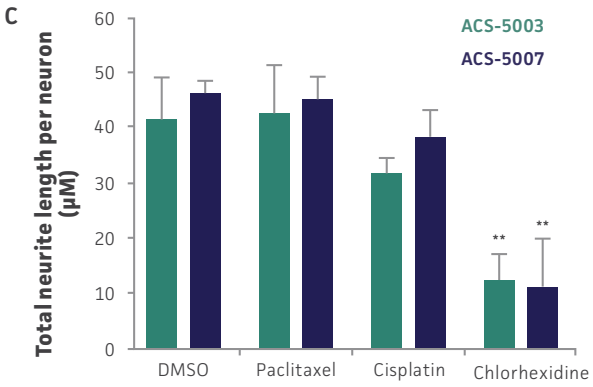


Figure 2: Effects of various compounds on undifferentiated NPCs or NPC-derived dopaminergic neurons. A) Undifferentiated NPCs were treated with paclitaxel for two days and cell survival was monitored by viability assay. NPCs differentiated into dopaminergic neurons were treated with paclitaxel, cisplatin, or chlorhexidine. Neurotoxic response to these compounds was detected via B) high-content imaging or C) total neurite length. Note the differential response: the NPCs-derived neurons were resistant to paclitaxel, while the undifferentiated NPCs exhibited sensitivity to the compound.

REFERENCES

1 Briley A, *et al.* Establishment and characterization of a kidney-drug interaction model by stably expressing hOAT1 in HEK 293T/17 cells. Application Note Number 24, 2016.

2 Panicker L, *et al.* Comprehensive gene expression analysis and neurotoxicity testing of human iPSC-derived neural progenitor cells and neurons. Application Note Number 23, 2016.

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