

Cell Lines and Primary Cells

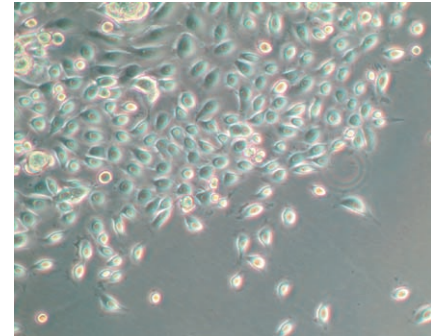
Asterand scientists isolate most any type of cell from any fresh tissue provided through our donor collaboration network. In addition to custom isolations, we offer cryopreserved cultured primary cells including stromal cells from early cancers and matching adjacent normal tissue, as well as diseased and normal chondrocytes, synovial fibroblasts, bronchial epithelial cells and pancreatic islets.

Human breast cancer cell lines

SUM-lines

- Originally isolated and grown in Dr. Steve Ethier's lab at the University of Michigan
- Isolated and grown under defined conditions for standardization
- Described in over 50 peer-reviewed publications
- Represented in terms of Affymetrix data, biomolecular marker status, isolation and growth conditions

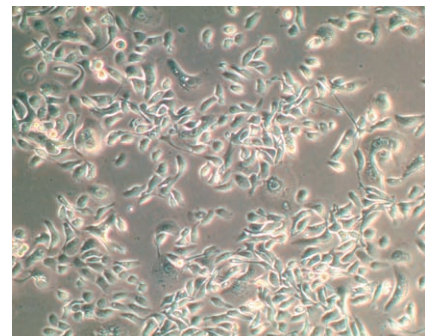
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|--------------------|----------------------|
| ▪ SUM-44PE | ▪ SUM-190PT |
| ▪ SUM-102PT | ▪ SUM-1315MO2 |
| ▪ SUM-149PT | ▪ SUM-225CWN |
| ▪ SUM-52PE | ▪ SUM-229PE |
| ▪ SUM-159PE | ▪ SUM-185PE |



SUM-102 PT

MCF10DCIS.com cell lines

- Developed by researchers in the Barbara Ann Karmanos Cancer Institute at Wayne State University
- Derived from MCF10AT pre-malignant cells
- Comedo type ductal carcinoma in situ in mice prior to forming invasive carcinoma
- Growth-inhibited by Tamoxifen

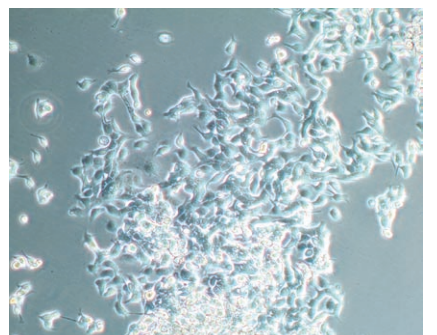


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Human hematopoietic malignancies and pancreatic cell lines

- Developed at the Barbara Ann Karmanos Cancer Institute of Wayne State University by Doctors Ayad Al-Katib and Ramzi Mohammad
- Described in dozens of descriptive and experimental publications
- Lymphomas, leukemia, macroglobulinemia and pancreatic cell lines available

- | | |
|--------------------|--------------------------------|
| ▪ WSU-WM | ▪ WSU-Pre-B-ALL |
| ▪ WSU-FSCLL | ▪ WSU-AML |
| ▪ WSU-DLCL2 | ▪ KCI-MOH1 (pancreatic) |



KCI-MOH 1

EXPERTS IN HUMAN
TISSUE RESEARCH

EXTENSIVE HUMAN
TISSUE NETWORK

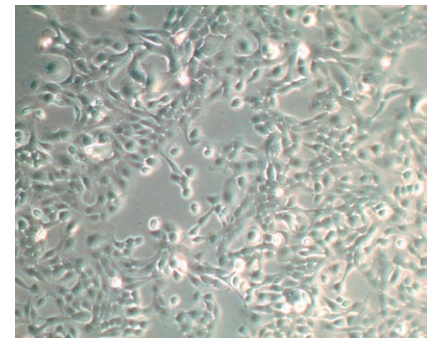
ADVANCE PROMISING
COMPOUNDS FASTER

INFORMED
DECISION MAKING

CONFIDENCE FOR
CLINICAL SUCCESS

Prostate cell lines

- Developed in collaboration among Karmanos Cancer Institute, Onyvax Ltd., and Asterand
- Three pairs of prostate tumor and normal cell lines available
- Immortalized via replication-defective retrovirus transferring the zHPV16 or HPV18 E6 and E7 genes
- Characterized via western blots and immunohistochemistry for a variety of molecular markers (e.g. androgen receptor, prostate-specific antigen)



OPCT-3

Normal

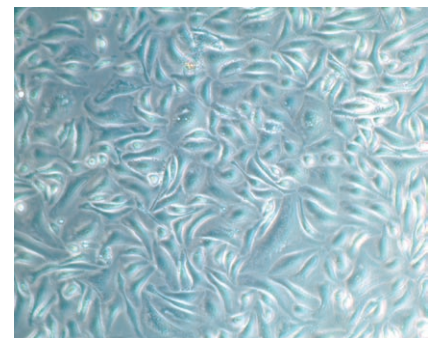
- OPCN-1
- OPCN-2
- OPCN-3

Tumor

- OPCT-1
- OPCT-2
- OPCT-3

Primary cell isolation

- Experienced scientists, state of the art labs
- Epithelial cells from most tissue types
- Fibroblasts from tumor and adjacent normal margins
- Circulatory and inflammatory cells
- Synovial fibroblasts
- Chondrocytes
- Pituitary cells
- Pancreatic islets
- Bronchial epithelial cells
- Additional cell types on request
- Smooth muscle cells



Primary epithelial

Asterand-provided cell lines or isolated cells are also available for use in a range of standard and custom cell-based assays as part of our PhaseZERO[®] Drug Discovery Services.