CreativeBioarray

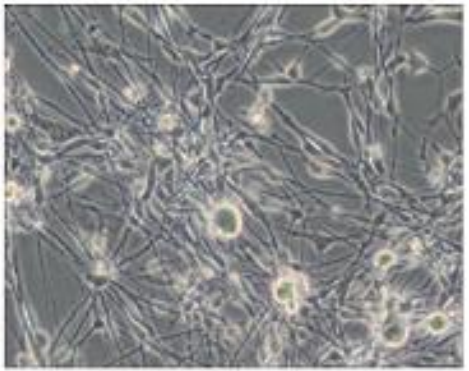
Primary cell culture

TABLE OF NAVIGATION

Primary Cells

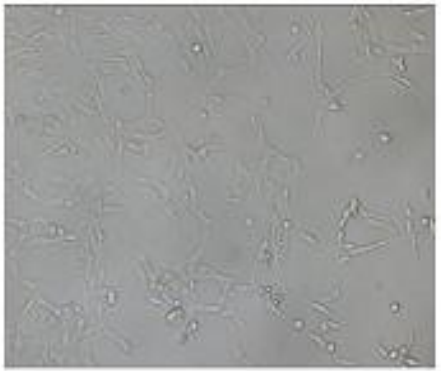
Basic properties of primary cells

Neurons



Endothelial cells

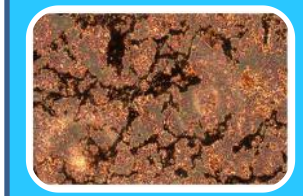
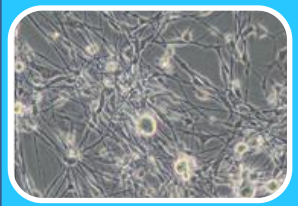
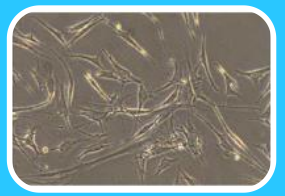
Skeletal muscle cells



Primary cells taken from living tissue are extremely accurate as they are literally coming from the source and are available from many sources on the human body. These living samples can give extremely accurate information about the cells in vivo and give relevant information regarding the living systems.

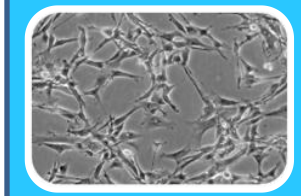
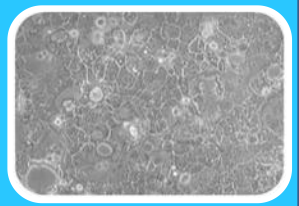
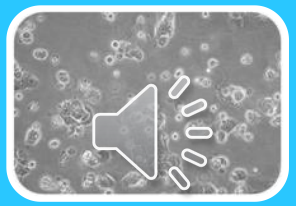
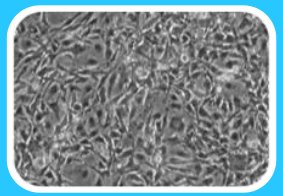
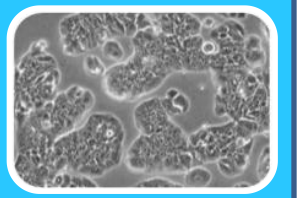
Primary Cells VS Cell Lines

Primary Cells

1	2	3	4	5
				
Affected by density and confluence	Maintain many markers and functions	Limited expansion capacity	Sensitive to culture conditions	Require additional nutrients

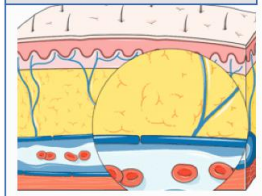
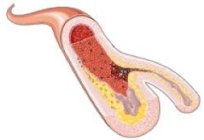
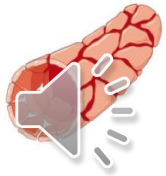
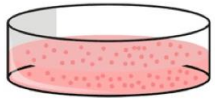
Primary Cells VS Cell Lines

Cell Lines

1	2	3	4	5
				
Easier to transfect	Differ genetically and phenotypically	Can be passaged indefinitely	Altered cell morphology	Susceptible to misidentification

Primary Cells Culture

Isolation of Primary Cells

Tissue Acquisition	Dissection	Disaggregation	Incubation & Growth	Separation & Purification
				
	Process tissue, removing fatty and necrotic cells	Mechanical or enzymatic disaggregation	• Incubate dispersed cells • Change medium 24 hours after initiation to remove loose debris & unattached cells	• Further purification of primary cells achieved by: selective media, remove cells at different levels of attachment, immunomagnetic beads

Primary Cell Culture

Technological Tips

01

Purity 01

Primary cells are rarely 100% pure

02

Thaw 02

Primary cells are very sensitive to the thawing process

03

Centrifuge 03

Centrifugation process is more harmful than the DMSO residue

04

Resuspend 04

Primary cells can only be gently resuspended with a pipette

05

Confluent 05

Primary cells will be senescent when grown to 100%

06

Trypsinization 06

Trypsin can be harmful to cells

07

Proliferation 07

Primary cells have limited ability to expand

08

Media 08

Special media are optimized for each primary cell types

Primary Cell Culture

Technological Tips

Purity

Be aware of the morphology of potential contaminating cells

Thaw

Placing the vial in 37℃, gently hold and rotate until the contents thaw

Centrifuge

We do not recommend centrifuging cell after thawing

Resuspend

Gently resuspended to ensure that cells are evenly covered

Confluent

We recommend that primary cells be sub-cultured at 90-95% confluence1

Trypsinization

Using low concentrations of trypsin and monitor cell under the microscope

Proliferation

We recommend using primary cells as early as possible to prevent genetic drift

Media

Choosing low serum or serum-free media to reduce the negative effects

At Creative Bioarray, we focus on primary cell culture, and we are very familiar with the common problems that researchers face when cultivating them. We compiled a list of the most common problems that researchers encountered when culturing primary cells.

Primary Cells from Creative Bioarray

The following features of our primary cells make them ideal for your research:

High purity and low passage

Rigorous and strict quality control

Cells from wide variety of tissue & species

Matched sets from the same donor

Maximum flexibility

Ready to use total kits

Contact Us

USA
45-1 Ramsey Road, Shirley, NY 11967, USA
Tel: 1-631-626-9181
Fax: 1-631-614-7828
Email: info@creative-bioarray.com
www.creative-bioarray.com
Europe
Tel: 44-207-097-1828