



Master Cell Isolation and Gene Expression Analysis Techniques

Comprehensive Classroom and Laboratory Training Programs

The Methods in Cell-specific Gene Expression training courses provide essential instruction and practice in cell isolation and gene analysis techniques. Level 1 is a two-day course on tissue sample preparation and Laser Capture Microdissection (LCM) using the PixCell II® LCM System. Level 2 is an intensive five-day course covering the Level 1 material, plus isolation, amplification and analysis of RNA prepared from cells captured by LCM. This course is appropriate for researchers conducting gene expression and microarray hybridization studies.

Level 1 Course Objectives

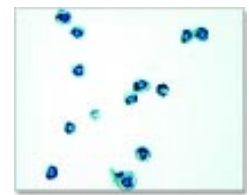
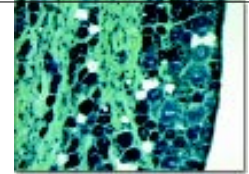
- Achieve theoretical understanding of LCM technology
- Prepare frozen tissue sections for LCM while preserving nucleic acids
- Stain tissue sections for LCM using the HistoGene™ LCM Frozen Section Staining Kit
- Select and acquire homogeneous cell populations using the PixCell II Laser Capture Microdissection System
- Achieve Level 1 Certification and qualification for instructing others in Level 1 topics and techniques

Level 2 Course Objectives

- Complete Level 1 course content, plus
- Isolate RNA from LCM-captured cells using the PicoPure™ RNA Isolation Kit
- Produce microgram quantities of RNA for labeling and microarray hybridization from nanogram quantities of isolated RNA using the RiboAmp™ RNA Amplification Kit
- Measure the quantity and analyze the quality of isolated and amplified RNA
- Achieve Level 2 Certification and qualification for instructing others in Level 2 topics and techniques



Level 1 and Level 2 Methods in Cell-specific Gene Expression training courses include personal instruction and hands-on practice with the PixCell II Laser Capture Microdissection System.



Acquire homogeneous cell populations from stained tissue sections.

Level 1: Tissue Preparation and LCM

In the two-day Level 1 training course, participants learn to prepare and stain histological specimens from frozen tissue for LCM and select and acquire homogeneous cell populations using the PixCell II Laser Capture

Microdissection System. Instruction emphasizes operation of the PixCell II LCM System, and correct tissue handling and sample preparation for subsequent DNA, RNA or protein analysis.

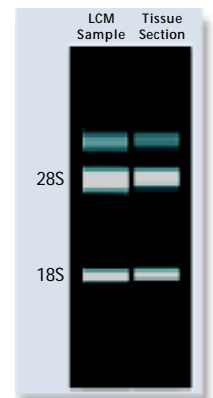
Level 2: Tissue Preparation through RNA Amplification

In the five-day Level 2 training course, participants learn all the material in the Level 1 program then proceed with instruction and labwork on RNA isolation and RNA amplification. Instruction emphasizes RNA preservation, maximum yield of intact RNA

from small populations of captured cells, and mRNA amplification for microarray-based expression analysis. Course participants also learn to assess the quality and quantity of isolated and amplified RNA products and to troubleshoot lab procedures.



Level 2 course participants obtain practical experience in gene analysis techniques, from tissue preparation and cell isolation to RNA purification and amplification.



Analyze RNA quality of LCM sample vs. whole tissue section.

Hands-on Labwork on Private Samples

Arcturus provides a variety of frozen tissues for use as starting material at the beginning of the laboratory segment of the course. For an additional cost, course participants may, by prior arrangement with the instructor, perform course labwork on tissues from their own

laboratory. To carry out the course labwork on a private sample, please contact Arcturus at techsupport@arctur.com at least three weeks in advance of your intended attendance date to receive detailed instructions on specimen preparation and shipment to Arcturus.

Course Certification

The Level 1 and Level 2 Methods in Cell-specific Gene Expression training courses are certificate programs. At the conclusion of each course, participants will be Level 1 or Level 2 Certified and will receive a written certificate as proof of course completion. For six months following course completion, certificate holders are entitled to discounts on Arcturus' series of consumables and reagents used in the training program.

Course Details

The Level 1 Methods in Cell-specific Gene Expression training course is a two-day course running on consecutive weekdays. The Level 2 training course is a five-day course running from Monday through Friday of the week of instruction. All instruction takes place at Arcturus' corporate headquarters in Mountain View, California. Classes begin at 8:00 AM and end at 5:00 PM. Arcturus provides lunch on each day of instruction. Light homework assignments are assigned for after-hours. Participants will have the opportunity to meet and interact with Arcturus scientists.

Prerequisites

For maximum value and benefit, course participants should have completed undergraduate classroom and laboratory coursework in biochemistry and cell biology, and should possess at least six month's bench-level experience in a cell or molecular biology research laboratory.

Class Schedule: Level 1 and Level 2 training courses are offered regularly. Class size is limited to four participants. Visit www.arctur.com for specific dates and class availability.

Airports: Out-of-town participants should fly into San Jose International (SJC) or San Francisco International (SFO) airports.

Accommodations: Lodging is available in Mountain View or in nearby Sunnyvale, Palo Alto, Los Altos or Santa Clara. Visit www.arctur.com for a list of nearby hotels.



Ashi Malekafzali teaches the Level 1 and Level 2 Methods in Cell-specific Gene Expression training courses. Mr. Malekafzali has taught college and graduate level science courses at the University of California, Irvine, at the National Institutes of Health, and at

Arcturus. Prior to joining Arcturus, Mr. Malekafzali was an IRTA Fellow at the National Institutes of Health, where he helped to develop and characterize Laser Capture Microdissection instrumentation, software, reagents and protocols, and popularize the new technology by instructing fellow scientists in its application to original research. Mr. Malekafzali received his Master's degree in Biotechnology from Johns Hopkins University. He has authored and co-authored several scientific publications.

Ordering Information

Catalog #	Description
LCM0901	Level 1 Methods in Cell-specific Gene Expression training course - Commercial
LCM0903	Level 1 Methods in Cell-specific Gene Expression training course - Academic
LCM0904	Level 2 Methods in Cell-specific Gene Expression training course - Commercial
LCM0905	Level 2 Methods in Cell-specific Gene Expression training course - Academic
LCM0906	Handling and Preparation Fee for Private Tissue Sample

PixCell, CapSure, RiboAmp, PicoPure, and HistoGene are trademarks owned by Arcturus. All other trademarks shown are the property of their respective owners. Polymerase Chain Reaction (PCR) is a patented process owned by Hoffman-La Roche AG.



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