

NTHRYS

OPC PVT LTD

SECTION • CEL

Cell Culture & Cell-Based Techniques

Hands-on wet-lab training in working with living cells — basic cell-culture technique, primary and specialised cultures, cell-line engineering and selection, cell-based functional assays, cell characterisation and authentication, and advanced imaging-based techniques.

06

CATEGORIES

30

PROTOCOLS

CEL

SECTION ID

2026

EDITION

Categories & Protocols

Section **CEL** spans 6 category streams and 30 bench protocols. Every protocol carries a unique code for enrolment, tracking and certification.

CEL-BC	Basic Cell Culture Technique Aseptic technique, passaging, counting & cryo	05
CEL-PR	Primary & Specialised Cultures Primary cells, stem cells, organoids & co-culture	05
CEL-LE	Cell-Line Engineering & Selection Stable lines, clonal selection & reporter lines	05
CEL-FA	Cell-Based Functional Assays Proliferation, cytotoxicity, apoptosis & migration	05
CEL-CH	Cell Characterisation & Authentication STR authentication, mycoplasma & stability	05
CEL-AD	Advanced & Imaging-Based Techniques Live-cell imaging, high-content & single-cell	05
TOTAL	All training protocols in section CEL	30

CODE FORMAT

CEL • **FA** • **01**

CEL section

FA category

01 protocol

01

■ CATEGORY · CEL-BC

Basic Cell Culture Technique

Aseptic technique, passaging, counting & cryo

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

CEL-BC-01

**Aseptic Cell-Culture
Technique**

Contamination-free handling.

CEL-BC-02

Cell Passaging & Subculture

Trypsinisation & splitting.

CEL-BC-03

Cell Counting & Viability

Haemocytometer / automated counts.

CEL-BC-04

**Media Preparation &
Selection**

Formulation & supplementation.

CEL-BC-05

Cryopreservation & Thawing

Freeze-down & recovery.

02

CATEGORY • CEL-PR

Primary & Specialised Cultures

Primary cells, stem cells, organoids & co-culture

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

CEL-PR-01

Primary Cell Isolation

Tissue-derived cell recovery.

CEL-PR-02

Stem-Cell Culture

Pluripotent / adult stem cells.

CEL-PR-03

3D / Organoid Culture

Self-organising tissue models.

CEL-PR-04

Co-Culture Systems

Multi-cell-type culture.

CEL-PR-05

Suspension Culture

Non-adherent cell growth.



■ CATEGORY · CEL-LE

Cell-Line Engineering & Selection

Stable lines, clonal selection & reporter lines



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

CEL-LE-01

Stable Cell-Line Generation

Integrated-construct lines.

CEL-LE-02

Clonal Selection & Isolation

Single-cell cloning.

CEL-LE-03

Antibiotic Selection / Kill Curves

Selection-dose determination.

CEL-LE-04

Inducible Expression Lines

Controllable-expression cells.

CEL-LE-05

Reporter Cell-Line Construction

Readout-engineered lines.

04

■ CATEGORY · CEL-FA

Cell-Based Functional Assays

Proliferation, cytotoxicity, apoptosis & migration

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

CEL-FA-01

Proliferation Assays

Growth-rate measurement.

CEL-FA-02

Cytotoxicity / Viability Assays

Cell-death quantitation.

CEL-FA-03

Apoptosis Assays

Programmed-death detection.

CEL-FA-04

Migration / Invasion Assays

Motility & invasion testing.

CEL-FA-05

Cell-Cycle Analysis

DNA-content profiling.



■ CATEGORY · CEL-CH

Cell Characterisation & Authentication

STR authentication, mycoplasma & stability



CODE	TRAINING PROTOCOL	DESCRIPTION
CEL-CH-01	Cell-Line Authentication (STR)	Identity verification.
CEL-CH-02	Mycoplasma Testing	Hidden-contaminant detection.
CEL-CH-03	Karyotype / Genomic Stability	Chromosomal-integrity checks.
CEL-CH-04	Marker Expression Profiling	Phenotype confirmation.
CEL-CH-05	Contamination Detection	Microbial / cross-line checks.



■ CATEGORY · CEL-AD

Advanced & Imaging-Based Techniques

Live-cell imaging, high-content & single-cell



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

CEL-AD-01

Live-Cell Imaging

Time-lapse cell observation.

CEL-AD-02

Reporter / Biosensor Imaging

Functional live readouts.

CEL-AD-03

High-Content Screening

Image-based phenotyping.

CEL-AD-04

Single-Cell Isolation

Per-cell capture methods.

CEL-AD-05

Organ-on-Chip / Microphysiological

Microfluidic tissue models.

Grow & interrogate living cells

Every protocol in Section CEL is delivered as hands-on bench training — from aseptic culture and cryopreservation through cell-line engineering, functional assays and live-cell imaging. Reliable cell culture is the living substrate on which most molecular experiments are ultimately performed.

30 protocols

6 categories

CEL section

NTHRYS OPC PVT LTD

+91-8977624748 · smo@nthrys.com · www.nthrys.com