

NTHRYS

OPC PVT LTD

SECTION • SCS

Single-Cell & Spatial Molecular Biology

Hands-on wet-lab training in resolving biology at single-cell and spatial resolution — single-cell isolation and capture, single-cell transcriptomics, single-cell genomics and epigenomics, multi-omic and CITE methods, spatial transcriptomics and proteomics, and single-cell quality control.

06

CATEGORIES

30

PROTOCOLS

SCS

SECTION ID

2026

EDITION

Categories & Protocols

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

SCS-IS	Single-Cell Isolation & Capture FACS, droplet, microwell & laser-capture	05
SCS-RN	Single-Cell Transcriptomics scRNA-seq library prep, droplet & plate methods	05
SCS-DN	Single-Cell Genomics & Epigenomics scWGA, scDNA-seq, scATAC & methylation	05
SCS-MO	Multi-Omic & CITE Single-Cell Methods CITE-seq, multiome, hashing & lineage tracing	05
SCS-SP	Spatial Transcriptomics & Proteomics Capture & imaging-based spatial profiling	05
SCS-QC	Single-Cell QC & Workflow Viability, doublets, demux & experimental design	05
TOTAL	All training protocols in section SCS	30

CODE FORMAT

SCS · **RN** · **01**

SCS section

RN category

01 protocol

01

■ CATEGORY · SCS-IS

Single-Cell Isolation & Capture

FACS, droplet, microwell & laser-capture

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-IS-01

**FACS-Based Single-Cell
Sorting**

Marker-defined single cells.

SCS-IS-02

**Microfluidic Droplet
Capture**

Droplet single-cell encapsulation.

SCS-IS-03

Microwell / Plate Capture

Well-isolated single cells.

SCS-IS-04

**Laser-Capture
Microdissection**

Tissue-context cell capture.

SCS-IS-05

Manual Micromanipulation

Hand-picked single cells.

02

CATEGORY • SCS-RN

Single-Cell Transcriptomics

scRNA-seq library prep, droplet & plate methods

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-RN-01

scRNA-seq Library Prep

Single-cell RNA libraries.

SCS-RN-02

Droplet-Based scRNA-seq
(10x)

High-throughput profiling.

SCS-RN-03

Plate-Based scRNA-seq
(Smart-seq)

Full-length sensitive profiling.

SCS-RN-04

Whole-Transcriptome
Amplification

Low-input RNA amplification.

SCS-RN-05

UMI & Barcoding

Molecule & cell tagging.



■ CATEGORY · SCS-DN

Single-Cell Genomics & Epigenomics

scWGA, scDNA-seq, scATAC & methylation



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-DN-01

Single-Cell Whole-Genome Amplification

Low-input genome amplification.

SCS-DN-02

Single-Cell DNA-seq

Per-cell genome sequencing.

SCS-DN-03

Single-Cell ATAC-seq

Per-cell accessibility.

SCS-DN-04

Single-Cell Methylation

Per-cell methylome.

SCS-DN-05

Copy-Number from Single Cells

Single-cell CNV mapping.

04

■ CATEGORY · SCS-M0

Multi-Omic & CITE Single-Cell Methods

CITE-seq, multiome, hashing & lineage tracing

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-M0-01

CITE-seq (Protein + RNA)

Surface-protein + transcriptome.

SCS-M0-02

Single-Cell Multiome (RNA + ATAC)

Co-assayed modalities.

SCS-M0-03

Cell Hashing / Multiplexing

Pooled-sample barcoding.

SCS-M0-04

Feature Barcoding

Custom-tag readouts.

SCS-M0-05

Lineage / Clonal Tracing

Heritable-barcode tracking.



■ CATEGORY · SCS-SP

Spatial Transcriptomics & Proteomics

Capture & imaging-based spatial profiling



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-SP-01

Spatial Transcriptomics (Capture)

Position-tagged transcripts.

SCS-SP-02

Imaging-Based Spatial (MERFISH / seqFISH)

In situ transcript imaging.

SCS-SP-03

Spatial Proteomics (IMC / CODEX)

Highly-multiplexed proteins.

SCS-SP-04

Tissue Sectioning for Spatial

Section prep & placement.

SCS-SP-05

Region-of-Interest Profiling

Targeted spatial readout.



■ CATEGORY · SCS-QC

Single-Cell QC & Workflow

Viability, doublets, demux & experimental design



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SCS-QC-01

Cell Viability & Doublet Control

Quality input preparation.

SCS-QC-02

Library QC & Quantification

Yield & complexity checks.

SCS-QC-03

Ambient-RNA & Background Control

Contamination minimisation.

SCS-QC-04

Sample Multiplex Demultiplexing

Hashtag deconvolution.

SCS-QC-05

Experimental Design & Power

Cell-number & depth planning.

Resolve biology cell by cell

Every protocol in Section SCS is delivered as hands-on bench training — from single-cell capture and scRNA-seq through single-cell multi-omics and spatial profiling. Bulk averages hide rare and transitional states; single-cell and spatial methods bring each cell and its location into view.

30 protocols

6 categories

SCS section

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