

NTHRYS

OPC PVT LTD

SECTION • SAM

Sample Collection, Stabilisation & Biobanking

Hands-on wet-lab training across the pre-analytical pipeline — specimen collection and handling, sample stabilisation and preservation, cold-chain transport and chain-of-custody, processing and aliquoting, biobanking and storage, and pre-analytical quality control.

06

CATEGORIES

30

PROTOCOLS

SAM

SECTION ID

2026

EDITION

Categories & Protocols

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

SAM-CO	Specimen Collection & Handling Blood, tissue, swab, plant & microbial sampling	05
SAM-ST	Sample Stabilisation & Preservation Nucleic-acid stabilisers, cryopreservation & FFPE	05
SAM-TR	Transport, Chain-of-Custody & Cold Chain Cold-chain shipping, regulations & custody records	05
SAM-PR	Sample Processing & Aliquoting Plasma/serum, PBMC, dissociation & sub-sampling	05
SAM-BB	Biobanking & Storage Systems Biorepositories, LN2 storage, inventory & barcoding	05
SAM-QC	Sample Quality, Ethics & Consent Pre-analytical QC, integrity, consent & metadata	05
TOTAL	All training protocols in section SAM	30

CODE FORMAT

SAM · **ST** · **01**

SAM section

ST category

01 protocol

01

■ CATEGORY · SAM-CO

Specimen Collection & Handling

Blood, tissue, swab, plant & microbial sampling

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-CO-01

Blood Collection & Tube Selection

Venous draw & anticoagulant choice.

SAM-CO-02

Tissue & Biopsy Collection

Fresh, frozen & fixed tissue capture.

SAM-CO-03

Swab & Body-Fluid Collection

Buccal, nasal & fluid sampling.

SAM-CO-04

Plant & Environmental Sampling

Field collection & preservation.

SAM-CO-05

Microbial & Culture Sampling

Aseptic isolate & swab capture.

02

■ CATEGORY · SAM-ST

Sample Stabilisation & Preservation

Nucleic-acid stabilisers, cryopreservation & FFPE

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-ST-01

Nucleic-Acid Stabilisation Reagents

RNA/DNA preservation solutions.

SAM-ST-02

Cryopreservation & Freezing

Cryoprotectants & controlled freezing.

SAM-ST-03

FFPE Fixation & Processing

Formalin-fixed paraffin embedding.

SAM-ST-04

Lyophilisation / Freeze-Drying

Dry-state long-term preservation.

SAM-ST-05

Chemical Fixation & Preservatives

Fixative selection & use.



■ CATEGORY · SAM-TR

Transport, Chain-of-Custody & Cold Chain

Cold-chain shipping, regulations & custody records



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-TR-01

Cold-Chain Packaging & Shipping

Insulated & validated transport.

SAM-TR-02

Biological Transport Regulations

Category A/B & UN3373 compliance.

SAM-TR-03

Chain-of-Custody Documentation

Traceable handover records.

SAM-TR-04

Temperature Monitoring & Loggers

Continuous excursion tracking.

SAM-TR-05

Dry-Ice & Liquid-N2 Shipping

Cryogenic shipment handling.

04

■ CATEGORY · SAM-PR

Sample Processing & Aliquoting

Plasma/serum, PBMC, dissociation & sub-sampling

05

PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-PR-01

Plasma / Serum Separation

Centrifugation & fraction capture.

SAM-PR-02

PBMC Isolation

Density-gradient cell separation.

SAM-PR-03

Tissue Dissociation & Homogenisation

Mechanical & enzymatic breakup.

SAM-PR-04

Aliquoting & Sub-Sampling

Freeze-thaw-sparing aliquots.

SAM-PR-05

Buffy Coat & Cell Fraction Prep

Layer recovery & storage.



■ CATEGORY · SAM-BB

Biobanking & Storage Systems

Biorepositories, LN2 storage, inventory & barcoding



CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-BB-01

Biorepository Setup & Storage Tiers

Storage architecture & layout.

SAM-BB-02

-80 °C & LN2 Storage Management

Vapour/liquid-phase storage.

SAM-BB-03

Sample Inventory & LIMS Tracking

Digital location management.

SAM-BB-04

Barcoding & Labelling Systems

Cryo-stable sample identity.

SAM-BB-05

Freezer Monitoring & Backup

Alarms & failover storage.



■ CATEGORY · SAM-QC

Sample Quality, Ethics & Consent

Pre-analytical QC, integrity, consent & metadata



PROTOCOLS

CODE

TRAINING PROTOCOL

DESCRIPTION

SAM-QC-01

Pre-Analytical Quality Control

Controlling pre-analytic variables.

SAM-QC-02

Sample Integrity Assessment

Degradation & viability checks.

SAM-QC-03

Informed Consent & Ethics Compliance

Consent & governance handling.

SAM-QC-04

Sample Metadata & Annotation

Structured sample records.

SAM-QC-05

Biobank SOPs & Accreditation

Standardised, audited practice.

Preserve sample integrity end to end

Every protocol in Section SAM is delivered as hands-on training across the pre-analytical pipeline — from collection and stabilisation through cold-chain transport, processing, biobanking and quality control. Protect the sample, and you protect every result that follows.

30 protocols

6 categories

SAM section

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