Stem Cell Transformations Job Oriented Training

NTHRYS provides Stem Cell Transformations Job Oriented Training for interested candidates at its Hyderabad facility, Telangana. Please refer below for more details including Fee strctures, Eligibility, Protocols and Modules etc.,. Please do call / message / whatsapp for more details on 9014935156 [India - +91]

Eligibility: BSc / BTech / MSc / MTech / MPhil / PhD in any Life Sciences studying or completed students

Protocols / Techniques Covered

Molecular Biology & rDNA Technology

1. DNA Extraction from Human Blood
2. DNA Extraction from Bacteria
3. DNA Extraction from Plant Leaf
4. DNA Extraction from Chicken Liver
5. Primer designing using Bioinformatics Tools
6. Optimization of PCR parameters
7. PCR
8. Agarose Electrophoresis using 1 - 10 Kbp ladder
9. Extraction & purification of amplified DNA from Agarose gels using spin columns
10. Cultivation of pUC 18 vector bearing bacterial strain
11. Plasmid [pUC 18] isolation
12. Restriction digestion digestion of pUC18 vector using EcoRI
13. 5` End DNA modification of restriction digested plasmid sample [Addition of Poly Ts]
14. TA Cloning [PCR Product and sample obtained above]
15. DNA ligation
16. Cultivation of DH5 alpha cells and Competent cell preparation using cultivated DH5 alpha cells
17. Bacterial Transformation [using competent cells and cloned vector obtained above]
18. Blue white screening [checking for the transformed colonies]

5 Days Duration - [Protocols 1, 5, 6, 7 & 8 are covered]

10 Days Duration - [Protocols 1, 2, 3, 5, 6, 7 & 8 are covered]

20 Days Duration - [Protocols 1, 2, 3, 4, 5, 6, 7 & 8 are covered]

1 Month Duration - [Protocols 1 to 13 are covered]

45 Days Duration - [All the above mentioned protocols are covered]

Animal Tissue Culturing (Stem Cells Cultivation)

Animal cells are more difficult to culture than microorganisms because they require many more nutrients and typically grow only when attached to specially coated surfaces. Despite these difficulties, various types of animal cells, including both undifferentiated and differentiated ones, can be cultured successfully.

NTHRYS Biotech Labs has introduced Animal Tissue Culture Training in the year 2009 to interested students / scholars. Please refer below for complete details:

Animal Tissue Culture Training Module

Module	Protocols List

Module - I	**Protocols covered under this Module - I:**
	1. Preparation of Animal Tissue Culture Media
	  1. Stock Solutions
	  2. Eagle's Base (10X)
	  3. Amino Acid Mixture (100X)
	  4. Vitamin Mixture (100X)
	  5. Ferric Nitrate (1000X)
	  6. DMEM (1X) - (Working Medium)
	  7. PBS (Phosphate Buffered Saline)
	2. Cultivation of Human Bone Marrow Stem Cells
	3. Cultivation of Human Umbilical Cord Blood Stem Cells
	4. Cultivation of Human Cardiomyocytes
	5. Cultivation of HeLa Cells
	6. Passaging
	7. Preparation and Use of Conditional Media [Using Human Cardiomyocytes]
	8. Staining
	  1. Acid Phosphatase Staining
	  2. Staining using Periodic Schiff's Reagent

Module - II	**Protocols covered under this Module - II:** 1. Separation of Fetal Human Serum [FHS] from Cord Blood. 2. Collection of Cardiomyocytes source and isolation of Cardiomyocytes. 3. Preparation of conditional media from cardiomyocytes cultivation. 4. Collection & Cultivation of Human Bone Marrow stem cells. 5. Utilization of Cardiomyocyte Conditional media to transform Bone Marrow stem cells to cardiomyocytes. 6. Utilization of Cardiomyocyte conditional media to transform Cord blood stem cells to cardiomyocytes 7. Qualitative analysis for confirmation of Cord Blood Stem cells 8. Qualitative analysis for confirmation of Human Bone Marrow stem cells 9. Qualitative analysis for confirmation of Cardiomyocytes 10. Qualitative analysis for confirmation of Cardiomyotes transformed from Cord blood stem cells 11. Qualitative analysis for confirmation of Cardiomyocytes transformed from Human Bone Marrow stem cells

Module - III	Protocols covered under this Module - III:
	1. Collection, Cultivation & preservation of Cord blood stem cells.
	2. Collection & Preservation of Human Cord Blood.
	3. Isolation, Cultivation & Confirmation of Human Liver Cell Lines
	4. Isolation, Cultivation & confirmation of Human Pancreatic Cell Lines
	5. Isolation, Cultivation & confirmation of Human Alveolar Cell Lines
	6. Isolation, Cultivation & Confirmation of Green monkey kidney cell lines
	7. Isolation, Cultivation & Confirmation of Human Neural Cells
	8. Isolation, Cultivation & Confirmation of Organ specific stem cells
	1. Neural Stem Cells
	2. Bone Marrow Stem Cells

Durations & Fee Structures

5 Days Duration - Module - 1 [Protocols 1, 2, 6 & 8]

10 Days Duration - Module - 1 [Protocols 1, 2,3,4, 6 & 8]

20 Days Duration - Module - 1 [All Protocols] & Module - 2 [Protocols 1,2,3 & 4]

1 Month Duration - Module - 1 [All Protocols] Module - 2 [All Protocols]

45 Days Duration - Module - 1 [All Protocols] Module - 2 [All Protocols], Module - 3 [All Protocols]

Immunotechnology or Immunology

19. Extraction of IgG [Immunoglobulin G] from plasma / serum
20. Purification of extracted Immunoglobulins [Using Dialysis process]
21. Pepsin digestion and purification of digested IgG
22. Preparation of Antigens for Immunizations [including Adjuvant selection strategies]
23. SDS PAGE
24. ELISA [Sandwich ELISA - Qualitative]
25. RID
26. DID [Ouchterlony]
27. Immunization of Mice or Rabbit

Plant Tissue Culturing

28. Preparation of media and stock solution
29. Preparation of Explants
30. Callus initiation and Maintenance [In Potato]
31. Shoot & Root Induction in potato

Microbiology

32. Isolation & Screening of soil microorganisms
33. Microbial stainings [Normal & Gram Staining]

34. Bacterial Motility test
35. Catalase Test
36. Mannitol Salt Agar Test
37. Blood Agar plates assay
38. Optochin sensistivity test
39. Bacitracin sensistivity test
40. CAMP Test
41. Bile esculin agar test
42. Nitrate broth test
43. Spirit blue agar test
44. Starch hydrolysis test
45. Coagulase test
46. Oxidase test
47. Sugar broth with durham's tubes test [Carbohydrate metabolism test]
    Glucose Test
    Sucrose Test
    Mannose Test
48. Methyl Red Voges Proskauer Test [MRVP Test]
49. Kliger's Iron Test
50. MacConkey Agar Test
51. Simmon's Citrate Test
52. Ureas Test
53. Sulfur Indole motility media test
54. Indole Test
55. Kliger's Iron Test

Bioinformatics

Basic Bioinforrmatics Training Module

Module I		
Theory	**Practical**	**Tools**
History	Biological Databases	NCBI,MMDB,EMBL,DDBJ,SwissProt
Origin	Structure DB	PDB,CATH,SCOP,InterproScan,Signal Scan
Scope of Bioinformatics	Importance of Tools	N/A
Origin of Tools	Sequence DB's	Scan,Prosite,Prodom, MotifScan,PFam
Sequence File Formats	Types	Genebank file format,FASTA format,EMBL format,UniprotKB/Swiss-Prot format, PIR/NBRF format
Module II		
Application of Bioinformatics	Gene Prediction & Functional Analysis	ORF finder, GeneScan,GeneMark,Webgene
Sequence Comparison	EXPASy, EMBOSS	BLAST,Clustalw,DIALIGN
Structure File Formats	Repeat detection	Repeat Masker, dnadot

General Introduction to Molecular Biology	Hydrophobicity	Protparam
Restriction Site Mapping	Restriction site Detection	Webcutter,NEBCutter
Visualiztion Software	System Biology Vs /w	RasMol,SPDBV,JMol,Cn3D
Phylogenetic Analysis	Evolutionary Relationship	Phylogeny,HHperd, Biology workbench
Bioinformatics Dogma	Thermodynamics	ProTherm
Minor Project Concerning the concepts learnt		

SAS

Below module is also provided Online. [SAS Online Training]

BASE SAS

- Navigation of SAS Software Tool
- STEPS For Writing the SAS Program
- SORT PROCEDURE
- PRINT PROCEDURE
- SUBSETTING data(OBS) by using WHERE Condition with various OPERATORS
- Controlling which OBSERVATIONS to be read from INPUT to OUTPUT dset
- Controlling which VARIABLES to be read from INPUT to OUTPUT dset
- Creating Multiple Output Datasets from One Single INput Dataset
- FORMATS
- RETAIN STATEMENT
- SUM ASSIGNMENT STATEMENT
- BY GROUP PROCESSING

Reading Data from Raw Data Files and Creating SAS Dataset
- DATALINES STATEMENT
- LIST INPUT STYLE
- Reading Multiple Observations Per Record DOUBLE TRAILING @@ on INPUT statement
- When Missing Values at the end of the record
- Reading Multiple Records Per Observation
- COLON MODIFIER
- SINGLE TRAILING (@) ON INPUT STATEMENT
- COLUMN INPUT STYLE / FIXED WIDTH INPUT STYLE

FUNCTIONS
- CHARACTER FUNCTIONS
- COMPRESS Function
- CONCATENATE FUNCTION / CONCATENATE OPERATOR
- CONCATENATE FUNCTION
- SUBSTRING Function
- FIND Function
- INDEX Function
- SCAN Function

- TRANWRD Function
- NUMERIC FUNCTIONS
- MATHEMATICAL FUNCTIONS
- DATE TIME FUNCTIONS
- Data Type Conversion Functions
Report Procedure / Summary Procedures
- Frequency Procedure
- MEANS PROCEDURE
- Dealing with MISSING values in PROC MEANS
- PROC SUMMARY
- PROC UNIVARIATE
- Tabulate Procedure
- REPORT PROCEDURE
- Creating a Detailed Report by enhancing output results
- Creating a SUMMARIZED Report by using GROUP USAGE
- DISPLAY USAGE
- Creating new computed variables from existing variables using COMPUTE BLOCK
- ACROSS USAGE
- REPORT BREAKS
Combining Sas Datasets
- Concatenation
- Merging of datasets (horizontally)
- ONE to ONE READING and ONE to ONE MERGING
- MATCH MERGING
- UPDATING & MODIFYING
- MISSINGCHECK / NOMISSINGCHECK Options
Additional Transformations
- Contents Procedure
- Selecting the VARIABLE RANGE LIST using
- Proc Sort with NODUPKEY and NODUPRECS
4. TRANSPOSE
- ARRAYS
- Do While / Do Until
- Append Procedure
- DEBUG in SAS
ADVANCED SAS
SAS SQL
- Enhancing the output results using PROC SQL
- GROUP BY Statement
- SUBQUERIES
- DISTINCT Keyword
- VALIDATE Keyword
- Joins
- SET OPERATORS
- DELETING ROWS

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MACROS
- Macro Introduction
- Macro Variable Storage
- Macro Options
- Macro Parameters
- Additional Macro Programs
- Creating MacVars using Proc Sql
- Creating a Macro Variable During Data Step Execution
- Symget Function to Search for Macro Variable Value
- Auto Call Macros
- Macro Debugging System Options
- Storing Stored Compiled Macr Program to a Permanent Library

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Fee details in Rs per student				
Fee	3 Months	4 Months	5 Months	6 Months
Individual	151600	298400	417500	494300
Group 2 - 4	144100	201000	392800	508300
Group 5 - 7	142600	198900	388700	503000
Group 8 - 10	141100	196800	384600	497600