



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

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SCHOOL OF BIO AND CHEMICAL ENGINEERING CENTRE FOR MOLECULAR AND NANOMEDICAL SCIENCES

M.SC. MEDICAL BIOTECHNOLOGY AND CLINICAL RESEARCH

1.3.3 VALUE ADDED COURSES FOR IMPARTING TRANSFERABLE AND LIFE SKILLS OFFERED DURING 2022- 2023

S. No.	Title	Event Dates	No. of Students Enrolled	No. of Students Completed	Page No.
1	Workshop on SDS-PAGE, Western Blotting, and Immunofluorescence	13.09.2022 to 17.09.2022	30	30	2



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International Research Centre

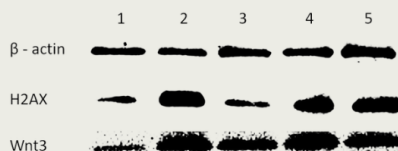
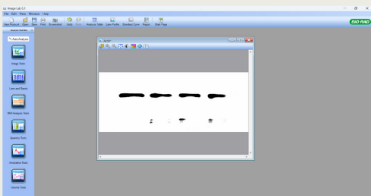
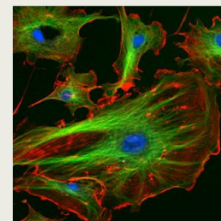
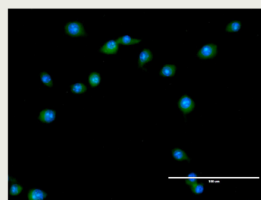
Centre for Molecular and Nanomedical Sciences

Organizes Value added course on

Workshop on 'SDS-PAGE, Western Blotting and Immunofluorescences'

13.09.2022 to 17.09.2022

Western blotting is a gold standard molecular biological technique, used for validating the presence of specific protein in the sample. Western blotting has a broad range of applications, including diagnostics, protein expression analysis, and so on. In this context, this course will cover protein lysate preparation from tissues and cells, Total Protein Quantification, SDS-PAGE (Bio-Rad electrophoresis system), protein transfer (Bio-Rad transfer unit), western blotting (Bio-Rad ChemiDoc XRS+ System) and data analysis. This workshop will provide hands-on experience to learn the molecular biology tools. Furthermore, this platform will help participants design antibody-based diagnostic kits.



Patrons

Dr. Mariazeena Johnson,
Chancellor

Dr. Marie Johnson,
President

Mr. J. Arul Selvan,
Vice President

Ms. Marie Bernadette Tamilarasi,
Vice President

Ms. Marie Catherine Jayapriya,
Vice President

Dr. T . Sasipraba
Vice Chancellor

Organizing Secretary

Dr. S. Johnson Retnaraj Samuel
Scientist - D

Workshop Co - Ordinators

Dr. S. Jackson Durairaj
Scientist - D

Dr. Y. Beryl Vedha
Scientist - C

VENUE

International Research Centre

ELIGIBLE STUDENTS

M.Sc. Medical Biotechnology and Clinical Research

Attendance is mandatory for all classes



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Centre for Molecular and Nanomedical Sciences

Organizes Value added course on

**Workshop on 'SDS-PAGE, Western Blotting and
Immunofluorescences'**

13.09.2022 to 17.09.2022

OBJECTIVES

TOTAL: 30 HRS

- Course Cover the basics of SDS-PAGE, Western Blotting and Immunofluorescence.
- To apply the advanced techniques in research and their projects

MODULE 1: SDS-PAGE

6 HRS

Introduction to SDS-PAGE, Buffer Preparation, Protein Isolation, Protein Quantification, Gel Casting and Sample Loading

MODULE 2: WESTERN BLOTTING

10 HRS

Introduction to Western Blotting, Buffer Preparation, Antibody Dilution, Blocking, Primary Antibody, Secondary Antibody and Documentation by ChemiDoc System

MODULE 3: IMMUNOFLUORESCENCE

10 HRS

Introduction to Immunofluorescence, Introduction to inverted fluorescence microscope, Buffer Preparation, Antibody Dilution, Blocking, Primary Antibody, Secondary Antibody and Documentation

MODULE 4: DATA ANALYSIS

4 HRS

Normalization of Western blotting Result using ImageJ software, GraphPad Prism

OUTCOMES:

- Able to use SDS-PAGE, ChemiDoc System, Inverted Fluorescence Microscope
- Familiar with gold standard molecular biology technique like western blotting
- Able to generate plots and exports this results for use in reports and presentation.



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DATE	TIME	TOPIC	HANDLE BY
13.09.2022	09.00 to 10.00	Introduction to SDS-PAGE	Dr. S. Johnson Retnaraj Samuel
13.09.2022	10.00 to 11.00	Isolation and Quantification of Protein	Dr. Y. Beryl Vedha
13.09.2022	11.00 to 01.00	Buffer Preparation and Gel Casting	Dr. S. Johnson Retnaraj Samuel
13.09.2022	02.00 to 03.00	SDS-PAGE, Sample Loading	Dr. S. Johnson Retnaraj Samuel
14.09.2022	09.00 to 10.00	Introduction to Western Blotting	Dr. S. Johnson Retnaraj Samuel
14.09.2022	10.00 to 01.00	SDS-PAGE	Dr. S. Johnson Retnaraj Samuel
14.09.2022	02.00 to 03.00	Transfer, Blocking, and Primary Antibody	Dr. S. Johnson Retnaraj Samuel
15.09.2022	09.00 to 12.00	Secondary Antibody	Dr. S. Johnson Retnaraj Samuel
15.09.2022	01.00 to 03.00	Data Documentation using Chemidoc	Dr. Y. Beryl Vedha
16.09.2022	09.00 to 10.00	Introduction to Immunofluorescence	Dr. S. Jackson Durairaj
16.09.2022	10.00 to 01.00	Basic Cell Culture	Dr. Y. Beryl Vedha
16.09.2022	02.00 to 03.00	Fixation, Permeabilization, Blocking and Primary Antibody	Dr. Y. Beryl Vedha
17.09.2022	09.00 to 12.00	Secondary Antibody	Dr. Y. Beryl Vedha
17.09.2022	01.00 to 03.00	Data Documentation using an Inverted fluorescence microscope	Dr. S. Jackson Durairaj



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CERTIFICATE OF PARTICIPATION

This is to certify that **Mr. E. GAJENTHIRAN**, *Sathyabama Institute of Science and Technology, Chennai*, has actively participated in the Workshop on "SDS-PAGE, Western blotting and Immunofluorescence" organized by Centre for Molecular and Nanomedical Sciences, Sathyabama Institute of Science and Technology, Chennai during 13th - 17th September, 2022.

Dr. Y. Beryl Vedha
Scientist - C, Co-ordinator

Dr. S. Jackson Durairaj
Scientist - D, Co-ordinator

Dr. S. Johnson Retnaraj Samuel
Scientist - D, Organizing Secretary



**LIST OF PARTICIPANTS M.SC MEDICAL BIOTECHNOLOGY AND CLINICAL RESEARCH
(BATCH 2021-2023/2022-24)**

S. No.	Reg. Number	Student Name
1	41101001	GAJENTHIRAN E
2	41101002	HAKSHAYA P
3	41101003	JOY R
4	41101004	KAMALAYAZHINI A
5	41101005	KAVYASHREE. V
6	41101006	V.KESAVAMOORTHY
7	41101007	KESAVARTHNI.G
8	41101008	MAHALAKSHMI.P
9	41101009	PUJA DAS
10	41101010	SANDHIYA
11	41101011	SANGAMITHRA.E
12	41101012	G.SARITHA
13	41101013	VAISHNAVI.K
14	41101014	B.VARSHA
15	41101015	VASANTH B
16	42101001	BAILU SANDHYA
17	42101002	S BHARISHI
18	42101003	BHUVANESHWARI J
19	42101004	ETIKAKOTA PAVAN KUMAR
20	42101005	GAGGUTURI SUMIYA
21	42101006	JEBARAJ D
22	42101007	JOHNANTONY P
23	42101008	KUNCHAM SAI SINDUSHA
24	42101009	MEIKANDAN C
25	42101010	NIVEDHA B
26	42101011	RUBESH C
27	42101012	SANGAMITHRA S
28	42101013	SHARMILA A
29	42101014	VIJAYALAKSHMI S
30	42101015	ISUKAPALLI SUJITHA