

MANONMANIAM SUNDARANAR UNIVERSITY

(REACCREDITED WITH 'A' GRADE BY NAAC)

Dr. K.Muthu, M.Sc., Ph.D

Assistant Professor

Department of Chemistry

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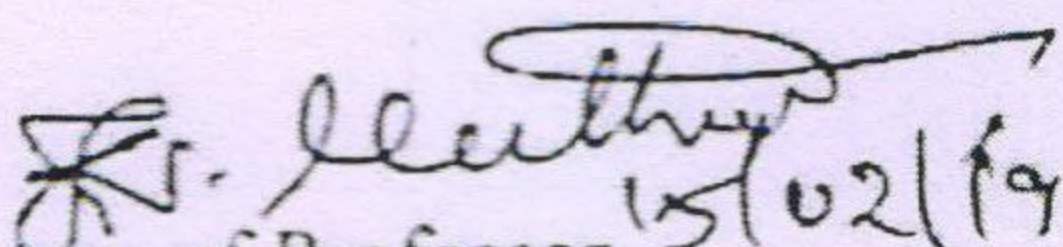
15.02.2019

TO WHOSOEVER IT MAY CONCERN

This is certify that **Mr . M. Vasanthu** pursuing II year M.Sc Chemistry, Thiruvalluvar University, Serkkadu, Vellore was a visitor observer in Department of Chemistry, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu from 01.02. 2019 to 15.02.2019.

He has observed and performed the following techniques.

1. UV. Visible Spectroscopy
2. FTIR Spectroscopy
3. Electrochemical analysis
4. LCMS


Signature of Professor 15/02/19

Dr. K. MUTHU, M.Sc., Ph.D
Assistant Professor
Department of Chemistry
Manonmaniam Sundaranar University
Tirunelveli - 627 012.

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15.02.2019

TO WHOSOEVER IT MAY CONCERN

This is certify that **Ms . A. Tamilselvi** pursuing II year M.Sc Chemistry, Thiruvalluvar University, Serkkadu, Vellore was a visitor observer in Department of Chemistry, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu from 01.02. 2019 to 15.02.2019.

He has observed and performed the following techniques.

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Signature of Professor

Dr. K. Muthu
15/02/19

Dr. K. MUTHU, M.Sc., Ph.D
Assistant Professor
Department of Chemistry
Manonmaniam Sundaranar University
Tirunelveli - 627 012.

April 10, 2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.S.Deva** pursuing II year M.Sc Biotechnology at Thiruvalluvar University, Serkadu, Vellore was a visitor observer in the Department of Clinical Microbiology, Christian Medical College, Vellore from 1.2.2019 to 15.3.2019.

He has observed and performed the following serological techniques:

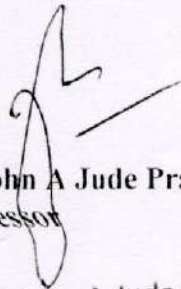
1. Widal
2. Brucella
3. Weil Felix
4. Cold Agglutination

Also he observed the following tests:

1. DNA extraction
2. Conventional PCR
3. Gel Electrophoresis
4. Real Time PCR

In addition, he has obtained a sound knowledge of ELISA and Nephelometry.

I wish him all the best in his future endeavours.



Dr. John A Jude Prakash
Professor

Dr. John A Jude Prakash
Professor
Dept. of Clinical Microbiology
Christian Medical College
Vellore - 632 004.



VICE-CHANCELLOR
THIRUVALLUVAR UNIVERSITY
632 115.

April 10, 2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr.M.Prakash pursuing II year M.Sc Biotechnology at Thiruvalluvar University, Serkadu, Vellore was a visitor observer in the Department of Clinical Microbiology, Christian Medical College, Vellore from 1.2.2019 to 15.3.2019.

He has observed and performed the following serological techniques:

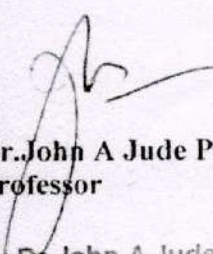
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Dr. John A Jude Prakash
Professor

Dr. John A Jude Prakash
Professor
Dept. of Clinical Microbiology
Christian Medical College
Vellore - 632 004.


VICE-CHANCELLOR
THIRUVALLUVAR UNIVERSITY
SERKADU, VELLORE - 632 115

Centre for Stem Cell Research

Unit of inStem, Bengaluru, in collaboration with DBT and CMC, Vellore.

Institute for Stem Cell Biology and Regenerative Medicine



inStem

An autonomous institute of
Department of Biotechnology,
Government of India.

CERTIFICATE

This is to certify that the research work embodied in this dissertation thesis, titled **"PHENOTYPIC CHARACTERIZATION OF HUMAN WHARTON'S JELLY-DERIVED MESENCHYMAL STEM CELLS AND CLONING OF *hTERT* TRANSGENE IN SECOND GENERATION LENTIVIRAL EXPRESSION PLASMID"**, submitted by **Ms. D. DIANA (Reg. No.30014P13002)** to Thiruvalluvar University, Serkkadu, and Vellore – 632115 in partial fulfillment of the requirements for the award of the degree of **Master of Science in Biotechnology** is an authentic record of project work done by the candidate under my supervision and guidance at Centre for Stem Cell Research, Christian Medical College, Vellore. It is further certified that no part of this work has formed the basis for the award of any other Degree or Diploma.

Dr. Sanjay Kumar
Scientist
Centre for Stem Cell Research,
(A Unit of inStem, Bengaluru)
Christian Medical College Campus,
Bagayam, Vellore - 632 002, Tamil Nadu, India.

Dr. SANJAY KUMAR,
Scientist,
Centre for Stem Cell Research,
Christian Medical College,
Bagayam, Vellore – 632 002.

VICE-CHANCELLOR
THIRUVALLUVAR UNIVERSITY
SERKADU, VELLORE - 632 115.



Pondicherry Biotech Private Limited

Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Ms. Asha M**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During her training program she had hands on experience with the following molecular biology techniques.

Techniques learned during the program:

1. Plasmid DNA isolation by alkaline lysis method.
2. Genomic DNA isolation by phenol:chloroform extraction procedure.
3. Competent cell preparation and bacterial transformation.
4. PCR amplification of DNA.
5. Agarose gel electrophoresis.

I wish her all success in her future endeavors.

Regards,



Registered Office: 21, Loius Pragasam Street, Pondicherry 605 001, India

Company Address: IT Park, Pondy Technopolis, PEC Campus, Pillaichavady, Puducherry 605 014

Ph: 0413-2655611 E-mail: sriharish.m@gmail.com



Pondicherry Biotech Private Limited

Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Ms. Kanimozhi S**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During her training program she had hands on experience with the following molecular biology techniques.

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5. Agarose gel electrophoresis.

I wish her all success in her future endeavors.

Regards,

Harikrishnan



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Pondicherry Biotech Private Limited

Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Mr. Manikandan G**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During his training program he had hands on experience with the following molecular biology techniques.

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Ph: 0413-2655611 E-mail: sriharish.m@gmail.com



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Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Ms. Mahalakshmi K**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During her training program she had hands on experience with the following molecular biology techniques.

Techniques learned during the program:

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I wish her all success in her future endeavors.

Regards,



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Ph: 0413-2655611 E-mail: sriharish.m@gmail.com



Pondicherry Biotech Private Limited

Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Ms. Vijayalakshmi V**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During her training program she had hands on experience with the following molecular biology techniques.

Techniques learned during the program:

1. Plasmid DNA isolation by alkaline lysis method.
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4. PCR amplification of DNA.
5. Agarose gel electrophoresis.

I wish her all success in her future endeavors.

Regards,



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Ph: 0413-2655611 E-mail: sriharish.m@gmail.com



Pondicherry Biotech Private Limited

Dr. Harikrishnan Mohan PhD

Senior Research Scientist

28 December, 2018

This is to certify that **Mr. Shakthivel K**, pursuing I year M.Sc. Biotechnology in Thiruvalluvar University, Vellore has undergone a training program at Pondicherry Biotech Private Limited from 26 December to 28 December 2018. During his training program he had hands on experience with the following molecular biology techniques.

Techniques learned during the program:

1. Plasmid DNA isolation by alkaline lysis method.
2. Genomic DNA isolation by phenol:chloroform extraction procedure.
3. Competent cell preparation and bacterial transformation.
4. PCR amplification of DNA.
5. Agarose gel electrophoresis.

I wish him all success in his future endeavors.

Regards,



Registered Office: 21, Loius Pragasam Street, Pondicherry 605 001, India

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VIT®

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Dr. R. Sudhakaran,
Assistant Professor (Senior),
Vellore Institute of Technology, India

To Whom So Ever It May Concern

This is to certify that **Ms. MenakaPriya. B, Ms. Sakthiswari. A, Ms. Shahina. A, Ms. Shamala. V and Ms. Urmila. G. P** pursuing I year M.Sc., Biotechnology in Thiruvalluvar University, Vellore has undergone an Internship program at Aquaculture Biotechnology Laboratory, Vellore Institute of Technology from 13.05.2019 to 18.05.2019. This intership enabled both the Institutes for research collaboration. During Internship program students has been exposed to the following techniques:

Technique learned during Internship program

1. Electrophoresis (Agarose and SDS-PAGE)
2. Polymerase Chain Reaction
3. Western blotting
4. Preparation of secondary metabolites from herbal sources

We wish them all the success in their future endeavor.

Yours sincerely,

R. Sudhakaran, PhD
Assistant Professor (Senior),
School of Bio Sciences and Technology,
Vellore Institute of Technology, Vellore-600 014.
Tamil Nadu, India.
Mobile: +91-94440-70739.
Email: sudhakaran.r@vit.ac.in / 2sudha@gmail.com
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Vellore - 632 014, Tamil Nadu, India; Phone: 91 - 416 - 2243091 (10 Lines) Fax: 91- 416 - 2243092

E-mail: registrar@vit.ac.in

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