



SRI VENKATESWARACOLLEGE OF ENGINEERING

(An Autonomous Institution – Affiliated to Anna University, Chennai)
Sriperumbudur Tk – 602 117, Tamil Nadu



Department of Biotechnology
&
BioAcademy



Solicit your esteemed presence
for a Guest Lecture on

“Production of Recombinant Proteins and etabolites”

by

RICHA SRIVASTAVA

Prime Minister's Research Fellow

Bhupat Jyoti School of Biosciences

Indian Institute of Technology Madras

ALL ARE CORDIALLY INVITED

Venue : [Google Meet \(https://meet.google.com/uic-phww-zdt\)](https://meet.google.com/uic-phww-zdt)
Date : 17th December 2022 (Saturday)
Time : 02:00 – 04:00 PM

Conveners

Prof. M. Sivanandham
Secretary, SVEHT
Prof. E. Nakkeeran
HOD -BIO

Organizing Secretary

Dr. V. Sumitha, Prof/Bio

Coordinators

Dr. K. Divakar, ASP/Bio
Dr. S. Pandi Prabha, Prof/Bio





Department of Biotechnology

Webinar on “Production of Recombinant Proteins and Metabolites”

Report

A Webinar on “Production of recombinant proteins and metabolites” by Ms. Richa Srivastava, Prime Minister's Research Fellow, Bhupat Jyoti School of Biosciences, IIT Madras, was organized on 17th December, 2022 by Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur on at 2.00 P.M through Google meet. Dr. V. Sumitha, Dr. K. Divakar, Dr. S. Pandi Prabha organized the webinar.

The session was started with a welcome address by Prof. E. Nakkeeran, Head, Department of Biotechnology, SVCE. Ms. Harini, G.V of II year B.Tech Biotechnology introduced the guest speaker. She is currently working on “Development of a riboregulator-based platform for control of gene expression and metabolic shunting in *Lactococcus lactis*”.

The main objective of the webinar was to introduce the concepts of rDNA technology and metabolic engineering to the undergraduate and post graduate students. The guest speaker kindled the students interest in synthetic biology and recombinant metabolite production through her delightful presentation. She had explained how one can extract the gene sequence information of the proteins for which sequence information is not available. Furthermore, she had discussed how to design monoclonal antibodies. She also discussed case studies on humulin production and antibody production.

Nearly, 107 participants including UG & PG students and faculty members of SVCE attended the event. It was followed by a question and answer/interaction session. The session was concluded with a vote of thanks by Mr. Kevin of II year B.Tech Biotechnology. Ms. Richa Srivastava, thanked the organizers and the management of SVCE for organizing this event.





Sri Venkateswara
College of
Engineering

An Autonomous Institute - Affiliated to Anna University Chennai
1, Pennalur, Sriperumbudur Tk. Tamil Nadu 602117

Snap shots of *Webinar on “Production of Recombinant Proteins and Metabolites”*

Production of Recombinant Proteins & Metabolites

Richa Srivastava
PMRF Ph.D Research Scholar

Core Concept

Target Gene, Expression Vector, Transfection, Host Cell, Crude Protein, Purification, Purified Protein

Case Study 1: Human Insulin Production

- Obtain the gene for insulin from human DNA
- Insert the gene into bacterial cells (restriction endonuclease, vector, transformation)
- Select the cells that have the desired gene
- Induce the bacterial cells to express the inserted gene to produce insulin
- The insulin gene A subunit and B subunits are synthesized separately.
- The two strands were mixed outside the cells and bound to each other in proper fashion to form the active insulin molecule.
- Collect and purify the insulin.

Protein for Life

The central Dogma for Protein Synthesis: DNA → RNA → PROTEIN

Protein Functions: Immunity, Structural Protein, Catalyst, Fluid Balance, Transport, CNS, Regeneration, Signalling, Regulation, Transport

Prepared By

Dr. V. Sumitha, Prof/BIO

Approved by

Prof. E. Nakkeeran, HOD/BIO

Prof. E. NAKKEERAN, M. Tech., Ph.D.
Professor & Head
Department of Biotechnology
Sri Venkateswara College of Engineering
Sriperumbudur Tk - 602 117, Tamilnadu, INDIA