# ISOLATION, CHARACTERIZATION AND SCREENING OF L-ASPARAGINASE PRODUCING ACTINOMYCETES FROM SOIL

Dissertation submitted to Calicut University

In partial fulfilment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by
AATHIRA KRISHNAN.M
Reg No.: PZATMMBOO1





(Affiliated to University of Calicut, NAAC accredited with 'B' grade).

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Fmail: pazhassirajacollege a gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "ISOLATION, CHARACTERIZATION AND SCREENING OF L-ASPARAGINASE PRODUCING ACTINOMYCETES FROM SOIL" is an authentic record of the original work carried out by Ms. AATHIRA KRISHNAN.M. MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

U BE

Deparament of Microbiology
Pazhassiraja College
Pulpally P.O., Wayanad

SSI RAJA

Principal

Principai Pazhassi Raja Coilege Pulpally, Pin: 67357-1

External Examiners: - 11

# PHENOTYPIC AND GENOTYPIC ANALYSIS OF BIOFILM PRODUCING BACTERIA FROM MULTI DRUG RESISTANT CLINICAL ISOLATES

Dissertation submitted to Calicut University
In partial fulfilment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by

JAMSHEEDHA T

Reg No.: PZATMMBOO2





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Email: pazhassirajacollege@gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "PHENOTYPIC AND GENOTYPIC ANALYSIS OF BIOFILM PRODUCING BACTERIA FROM MULTI DRUG RESISTANT CLINICAL ISOLATES" is an authentic record of the original work carried out by Ms. JAMSHEEDHA T, MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Gui

External Examiners: - 1

Department of Microbiology Pazhasa Kaja College

Palpally P.O., Wayanad

Pazhassi Raja College

Pulpally.Pin:67357-1

### EVALUATION OF PHYTOCHEMICALS AND THERAPEUTIC ACTIVITIES OF Garcinia cambogia

Dissertation submitted to Calicut University

In partial fulfilment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by
JEENA VARGHESE
Reg No.: PZATMMBOO3





(Affiliated to University of Calicut, NAAC accredited with '13' grade)

Pulpally 573579, Wayanad, Kerala

Web: www.pazhavarajacoflege.ac.in

Finail parhassimiacollege argmail.com

Phone 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "EVALUATION OF PHYTOCHEMICALS AND THERAPEUTIC ACTIVITIES OF Garcinia cambogia" is an authentic record of the original work carried out by Ms. JEENA VARGHESE, MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

Department of Microbiology

External Examiners:

Pazhassiraja College Pulpally P.O., Wayanad.

Principai Pazhassi Raja College Pulpally. Pin: 673579

Principa

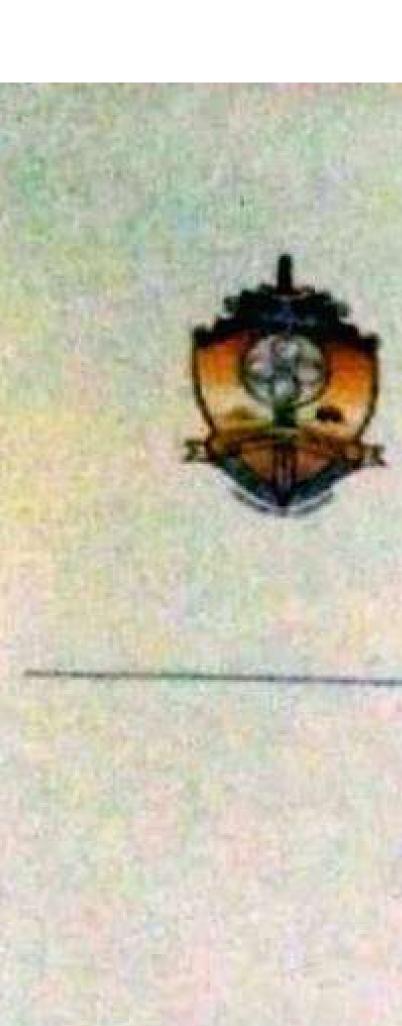
# A STUDY ON EFFLUX PUMP MEDIATED RESISTANCE IN MULTI DRUG RESISTANT BACTERIA

Dissertation submitted to Calicut University
In partial fulfilment of requirements for the award of the degree of

MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by
LAKSHMI P T
Reg No.: PZATMMBOO4





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhaszirajacollege.ac.m

Email: pazhasstrajacollege@gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "A STUDY ON EFFLUX PUMP MEDIATED RESISTANCE IN MULTI DRUG RESISTANT BACTERIA" is an authentic record of the original work carried out by Mrs. LAKSHMI P T, MSc. Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

External Examiners: - 1)

HOD

Department of Microbiology
Pazhassiraja College

Pulpally P.O., Wayanad

Principal

Principal
Pazhassi Reja College
Pulpally.Pin:673574

TO SE PARTICION DE LA CONTRACTOR DE LA C

### A STUDY ON CAFFEINE DEGRADING BACTERIA ISOLATED FROM VARIOUS SOURCES

A dissertation submitted to University of Calicut for the partial fulfillment of the award for the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by,

MOHAMMED SHEMEEM P

Register No. PZATMMB005

Under the guidance of

Dr. AKHILESH V P

Amplicon Biolabs

KINFRA, Kakkanchery

In partial fulfilment for the award of degree of

### MASTER OF SCIENCE IN MICROBIOLOGY



PAZHASSIRAJA COLLEGE PULPALLY, WAYANAD



18th July 2021

### CERTIFICATE

This is to certify that the dissertation entitled "A STUDY ON CAFFEINE DEGRADING BACTERIA ISOLATED FROM VARIOUS SOURCES" is an authentic record of original research work done by Mr. MOHAMMED SHEMEEM. P (Reg No. PZATMMB005) student of M.Sc. Microbiology, Pazhassiraja college, Pulpally, Wayanad under my supervision and guidance in Amplicon Biolabs, KINFRA, Kakkanchery, from November to January for the partial fulfillment of the requirement for the award of the Degree of Master of Science in Microbiology. This dissertation in full or parts have not been submitted to any other institute or University for the award of any degree or diploma. Further it is certified that this dissertation represents an independent work done by the candidate under my supervision.



Dr. Akhllesh. V. P (Supervising Guide)

### AMPLICON BIOLABS

Room No. 17, Park Centre, KINFRA, Kakkanchery, Calicut University P.O. Malappuram 673 635, Kerala

O 0494 240 77 77

ampliconbiolabs@gmail.com, support@ampliconbiolabs.com @ www.ampliconbiolabs.com



(Affiliated to University of Calicut, NAAC accredited with B. grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Email: pazhassirajacollege a gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "STUDY ON THE EFFECT OF METHANOLIC EXTRACT OF Aristolochia indica" is an authentic record of the original work carried out by Ms. NEEDHUSHA C U, MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-

Internal Guide

Department of Microbiology

Pazhassiraja College Pulpally P.O., Wayanad Principal

External Examiners: -/

ALLYN DO 57351

Principal
Pazhassi Raja College
Pulpally, Pin: 673570



# PAZHASSIRAJA COLLEGE, PLIPALIA

(Affiliated to University of Calicut NAAC accredited with 13 grade)

Pulpally 673579, Wavanud Kerala

Web www pazhassirajacollege.ac in

Email: pazhassirajacollege a gmail com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "STUDY ON THE EFFECT OF METHANOLIC EXTRACT OF Aristolochia indica" is an authentic record of the original work carried out by Ms. NEEDHUSHA C U, MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

External Examiners: -/

Department of Microbiology

Pazhassiraja College

Pulpally P.O., Wavanad

Principal

Principal
Pazhassi Raja College
Pulpally Pin: 67357-1

# STUDY ON THE EFFECT OF METHANOLIC EXTRACT OF

## Aristolochia indica

Dissertation submitted to Calicut University

In partial fulfilment of requirements for the award of the degree of

# MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by
NEEDHUSHA C U
Reg No.: PZATMMBOO6



## DETECTION OF blatem, blashv AND blactx-m GENES IN BETA LACTAM RESISTANT MDR BACTERIA

Dissertation submitted to Calicut University
In partial fulfilment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by RUMAISATH M A Reg No.: PZATMMBOO7





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Email: pazhassirajacollege@gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "DETECTION OF blatem, blashv AND blactx-M GENES IN BETA LACTAM RESISTANT MDR BACTERIA" is an authentic record of the original work carried out by Ms. RUMAISATH M A, MSc. Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

Department of Microbiology

Pazhassiraja College Pulpally P.O., Wayanad

External Examiners: -

Principal
Pazhassi Raja Coilege
Pulpally.Pin:673579

### DECLARATION

I hereby declare that the project work entitled "DETECTION OF bla<sub>TEM</sub>, bla<sub>SHV</sub> AND bla<sub>CTX-M</sub>

GENES IN BETA LACTAM RESISTANT MDR BACTERIA"

Submitted to the University of Calicut in the partial fulfillment of the award of the Degree in Master of Science in Microbiology, is an original dissertation work done by me, under the supervision and guidance of Mr.Abdul Bari. K.K, HOD of Microbiology, Pazhassiraja College Pulpally, Wayanad. I further declare that this dissertation has not previously formed the basis for the award of any degree or diploma of any university.

RUMAISATH M A

### ACKNOWLEDGEMENT

I praise and thank almighty for his blessings that sustained and helped me to carry out this work with success.

I wish to take this opportunity to express my deep sense of gratitude and heartfelt thanks to Dr.Anilkumar K, Principal, Pazhassiraja College, Pulpally.

I would like to gratefully and sincerely thank my guide Mr. Abdul Bari KK, Head of the Department, Department of Microbiology, Pazhassiraja College, Pulpally. His creative ideas, valuable suggestions and encouragement at every stage of this work enabled me to complete this work to the best of my expectation.

I would like to thank Mrs. Alice V T and Mrs. Tessa, (lab assistants) for her valuable support in this project work.

Last but not least; I would like to pay high regard to my parents and family for their sincere encouragement and inspiration throughout my project work and lifting me uphill to this phase of life. Besides this, my deep sense of gratitude to each and every soul who has helped me directly or indirectly in the successful completion of this project.

# ANTIVENOM POTENTIAL OF MUCUNA PRURIENS SEED EXTRACT AGAINST DABOIA RUSSELII AND ECHIS CARINATUS VENOMS

Dissertation submitted to Calicut University

In partial fulfilment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by SANTHINI C Reg No.: PZATMMBOO8





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

I mail: pazhassirajacollege@gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "ANTIVENOM POTENTIAL OF MUCUNA PRURIENS SEED EXTRACT AGAINST DABOIA RUSSELII AND ECHIS CARINATUS VENOMS" is an authentic record of the original work carried out by Ms. SANTHINI C. MSc.Microbiology. Pazhassiraja College. Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Research Supervisor

Dr. M. D. DINESH, Ph.D. Assistant Professor Dept. of Microbiology Pazhassiraja College Pulpally, Wayanad-673 579 HOD

Department of Microbiology Pazhassiraja College Pulpally P.O., Wayanad

Principai

Pazhassi Raja College Pulpally, Pin:67357 /

External Examiners: -

2)

### PREVALENCE OF PLASMID MEDIATED QUINOLONE RESISTANCE AMONG MDR STRAINS

Dissertation submitted to Calicut University

In partial fulfilment of requirements for the award of the degree of

#### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by SUMAYYA VALIYAKATII Reg No.: PZATMMBOO9



PAZHASSIRAJA COLLEGE
PULPALLY, WAYANAD



### PAZHANNIKAJA CIKLEGE, PULPALLY

(Affiliated to University of Calicut, NAAC secondited with "H" grade)

Pulpully 67357%, Waynesd, Karala

Water more purheromagneoillege as in

Final purhaum seculitar digmed con-

Photo: 04936 242266

#### CERTIFICATE

This is to certify that the dissertation entitled "PREVALENCE OF PLASMID MEDIATED QUINOLONE RESISTANCE AMONG MDR STRAINS" is an authentic record of the original work carried out by Ms. SUMAYYA VALIYAKATH, MSc Microbiology, Parhamstraja College, Pulpally, Wayanned towards the partial fulfillment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

External Examiners: - 1)

HOD

Pazhassiraja College

Pulpally P.O., Wayanad

Principal

Principal
Parhani Raja Colleg

# SCREENING OF L-GLUTAMINASE PRODUCING SOIL BACTERIAL CULTURES FOR EXTRACELLULAR PRODUCTION OF L-GLUTAMINASE

Dissertation submitted to Calicut University

In partial fulfillment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by TINS JOSEPH

Reg No.: PZATMMB010





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Email: pazhassirajacollege@gmail.com

Phone: 04936 242266

Principal	Date:
Dr Anilkumar K	

### **CERTIFICATE**

This is to certify that the dissertation entitled "SCREENING OF L-GLUTAMINASE PRODUCING SOIL BACTERIAL CULTURES FOR EXTRACELLULAR PRODUCTION OF L-GLUTAMINASE" is a bonafide record of the work done by Mr. TINS JOSEPH, Dept. of Microbiology, Pazhassiraja College, Pulpally, during the academic year 2019-2021 for the award of Master of Science in Microbiology of the University of Calicut.

## PRODUCTION AND OPTIMIZATION OF L-ASPARAGINASE ENZYME FROM SOIL ACTINOMYCETES

Dissertation submitted to Calicut University

In partial fulfillment of requirements for the award of the degree of

### MASTER OF SCIENCE IN MICROBIOLOGY

Submitted by VISMAYA E

Reg No.: PZATMMB012





(Affiliated to University of Calicut, NAAC accredited with 'B' grade)

Pulpally 673579, Wayanad, Kerala

Web: www.pazhassirajacollege.ac.in

Email: pazhassirajacollege@gmail.com

Phone: 04936 242266

### CERTIFICATE

This is to certify that the dissertation entitled "PRODUCTION AND OPTIMIZATION OF L-ASPARAGINASE ENZYME FROM SOIL ACTINOMYCETES" is an authentic record of the original work carried out by Ms. VISMAYA E, MSc.Microbiology, Pazhassiraja College, Pulpally, Wayanad towards the partial fulfilment of the requirement for the award of the Degree of Master of Science in Microbiology under University of Calicut during the period of 2019-2021.

Internal Guide

C BES

Pazhassiraja College
Pulpally P.O., Wayanad

Principal
Pazhassi Raja College
Pulpally.Pin:673577

Principal

External Examiners: - 1

2)