



SS INSTITUTE OF PHARMACY

(A unit of VS Educational & Charitable Trust)

Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 16.07.2021

To

The Project Lead,
IMIS Pharmaceuticals Pvt Ltd,
Corporate Office,
Chennai,
Tamil Nadu.

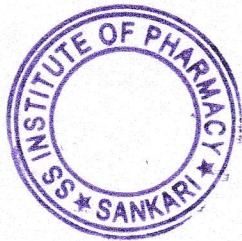
Dear Sir/Madam,

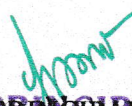
Sub: Request for Financial Support and Guidance for R&D Work in Funded Project – Reg

This letter is to bring to your kind notice that we (SS Institute of Pharmacy, Salem) are involving our staff and students in research-oriented activities. In this regard, we kindly request your support and permission to undertake a consultancy-related project titled "*Enhancement of Aceclofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carriers*" in association with your esteemed organization. This collaboration will enrich our knowledge and foster the development of innovative ideas with social relevance.

Investigator: Mr. T. Sampath Kumar, AP / SSIP

Thanking You ,




PRINCIPAL.
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301

Address: NO.261/127 1'st Floor, Rohit Tower, Angappa
Naicken St, Parry's Corner, Chennai, Tamil Nadu
CIN: U24239AP1981PTC003079
Telephone: +91 866 4609214
Email: info@imispharma.com



Date : 18.08.2021

To

Mr. Sampath Kumar
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Sir,

Subject: Acceptance and Provision of Financial Assistance for Funded Project – Reg.

We are pleased to inform you that the proposal submitted for the project titled "Enhancement of Acelofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carrier" has been approved by our organization for possible funding of Rs. 1,30,000/-, as the project appears to be innovative. We kindly request the Principal Investigator to submit the monthly report.

Project title	Principal Investigator	Project duration
Enhancement of Acelofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carrier	Mr.T.Sampath Kumar	1.5 Years

Thanking you,

The Project Lead,
IMIS Pharmaceuticals Pvt Ltd,
Corporate Office,
Chennai,



PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



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and The Directorate of Medical Education, Chennai.

ABSTRACT

Enhancement of Aceclofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carrier

research focuses on enhancing the dissolution rate of Aceclofenac, a non-steroidal anti-inflammatory drug (NSAID), through the use of solid dispersion techniques. Aceclofenac is widely used for its anti-inflammatory and analgesic properties, but its poor aqueous solubility limits its bioavailability and therapeutic efficacy. The objective of this study is to improve the dissolution rate and bioavailability of Aceclofenac by employing different carriers in the formulation of solid dispersions. The carriers explored include hydrophilic polymers such as polyethylene glycol (PEG), polyvinylpyrrolidone (PVP), and hydroxypropyl methylcellulose (HPMC), which enhance the solubility of the drug by forming a molecular dispersion. The solid dispersions are prepared using the solvent evaporation method, and the resulting formulations are characterized for their physical properties, drug content, and dissolution rate. In vitro dissolution studies are conducted to compare the release profile of Aceclofenac from the solid dispersion with that of the pure drug and conventional formulations. The expected outcome is a significant enhancement in the dissolution rate, leading to improved bioavailability and faster onset of therapeutic action. This research contributes to the development of more effective and efficient drug delivery systems for poorly soluble drugs like Aceclofenac.



PRINCIPAL.
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301

NH-544, Kuppanur (Po), Sankari (Tk), Salem(Dt) – 637301, Tamilnadu, India
Phone : 04283 241080 | E-mail : ssip1718@gmail.com | Website : www.ssip.edu.in



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and The Directorate of Medical Education, Chennai.

BUDGET DETAILS FOR THE PROPOSED PROJECTS

The following table shows the budget proposal for the funded projects title “**Enhancement of Acelofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carrier**”

S.NO	DESCRIPTION	AMT IN RUPEES
1	Researcher (Personnel)	15,000
2	Drugs and chemicals purchase	23,000
3	Method development	28,000
4	Qualitative and Quantitative analysis	54,000
5	Travel allowance	4,000
6	Miscellaneous	6,000
	Total	1,30,000 /-

Project Invigilator



Principal

PRINCIPAL.
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK),
SALEM -637301



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and Directorate of Medical Education, Chennai.

20.10.2021

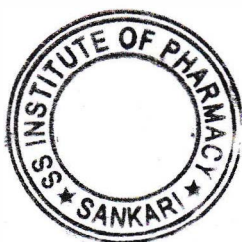
RESEARCH GRANT UTILISATION CERTIFICATE

To

The Project Lead,
IMIS Pharmaceuticals Pvt Ltd, Corporate Office,
Chennai,
Tamil Nadu.

Subject: Financial assistance for project scheme-Reg

I hereby certify that amount of Rs. 1,30,000 (One Lakh Thirty Thousand) received as part of research grant from IMIS Pharmaceuticals Pvt Ltd, Corporate Office, Chennai, Tamilnadu was actually used by Mr. T. Sampath Kumar for conducting the minor research project titled *Enhancement of Aceclofenac Dissolution Rate Through Solid Dispersion Technique Utilizing Various Carrier.*



Place : Sankari

Date : 20.10.2021

Dr. C. Jothilmanivannan

Principal

SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301.

Address: NO.261/127 1st Floor, Rohit Tower, Angappa
Naicken St, Parry's Corner, Chennai, Tamil Nadu
CIN: U24239AP1981PTC003079
Telephone: +91 866 4609214
Email: info@imispharma.com



To

17.03.2023

Mr. Sampath Kumar
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Sir,

Subject: Sincere Appreciation for the Successful Completion of *Enhancement of Aceclofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carriers*

On behalf of our company, I would like to express our sincere gratitude and extend warm congratulations on the successful completion of *Enhancement of Aceclofenac Dissolution Rate through Solid Dispersion Technique Utilizing Various Carriers*, made possible through your generous support.


Your invaluable contribution was instrumental in ensuring the smooth implementation of the project and the achievement of its core objectives. The success of this project stands as a testament not only to the hard work and dedication of the team but also to your continued commitment to fostering meaningful and lasting change.

We truly value the opportunity to have worked alongside you. Your support has left a tangible impact, and we look forward to exploring future opportunities for collaboration. Thank you once again for your trust, support, and belief in our shared mission.

Warm regards,

The Project Lead,
IMIS Pharmaceuticals Pvt Ltd,
Corporate Office, Chennai,




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KIIPPANUR (PO), SANKARI (TK),
Salem - 637301.



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Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 23.09.2021

To

The Research and Development Head,
Pulse Pharmaceuticals Pvt Ltd,
Hyderabad,
Telangana.

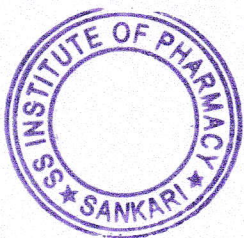
Dear Sir/Madam,

Sub: Request for Financial Support and Guidance for R&D Work in Funded Project – Reg

This letter is to bring to your kind notice that we (SS Institute of Pharmacy, Salem) are involving our staff and students in research-oriented activities. In this regard, we kindly request your support and permission to undertake a consultancy-related project titled "Formulation of Phytosomes Loaded with Alcoholic Extract of Cardiospermum halicacabum–Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery" In association with your esteemed organization. This collaboration will enrich our knowledge and foster the development of innovative ideas with social relevance.

Investigator: Dr.C. Jothimanivannan/ Principal SSIP

Thanking You ,



[Signature]
PRINCIPAL.
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301

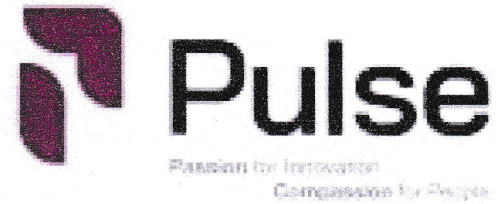
Address: Plot No. 18/1, Sector-III, HUDA Techno Enclave,
HITEC City, Hyderabad, Telangana 500081

CIN NO: U24239TG1997PTC026151

REG NO: 026151

Contact: 04027007049

Email: info@pulsepharma.net



Date : 13.10.2021

To

Dr. C.Jothimanivannan,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Sir

Subject: Acceptance and Provision of Financial Assistance for Funded Project – Reg.

We are pleased to inform you that the proposal submitted for the project titled "Formulation of Phytosomes Loaded with Alcoholic Extract of Cardiospermumhalicacabum–Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery" has been approved by our organization for possible funding of Rs. 1,75,000 as the project appears to be innovative. We kindly request the Principal Investigator to submit the monthly report.

Project title	Principal Investigator	Project duration
Formulation of Phytosomes Loaded with Alcoholic Extract of Cardiospermumhalicacabum– Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery	Dr.C Jothimanivannan	2 Years

Thanking you,

The Research and Development Head,
Pulse Pharmaceuticals Pvt Ltd,
Hyderabad

**PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301**





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Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

ABSTRACT

Formulation of Phytosomes Loaded with Alcoholic Extract of Cardiospermumhalicacabum–Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery

This research focuses on the formulation of phytosomes loaded with the alcoholic extract of cardiospermumhalicacabum, commonly known as balloon vine, combined with a soya lecithin phospholipid complex to enhance drug delivery. Phytosomes are a novel drug delivery system that improves the bioavailability of plant-based compounds by forming a complex with phospholipids, thereby enhancing their absorption and therapeutic efficacy. Cardiospermumhalicacabum is known for its anti-inflammatory and analgesic properties, making it a promising candidate for use in pain relief and inflammatory disorders. The formulation involves extracting the active phytoconstituents from cardiospermumhalicacabum and complexing them with soya lecithin to form phytosomes, which are then incorporated into a suitable dosage form. The phytosome formulation is evaluated for its particle size, zeta potential, and encapsulation efficiency, as well as its stability and in vitro release profile. The goal of this study is to demonstrate that the phytosome complex can improve the solubility, absorption, and bioavailability of the herbal extract, leading to enhanced therapeutic outcomes. This research provides a foundation for developing more effective plant-based drugs that can be used in modern medicine.



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and The Directorate of Medical Education, Chennai.

BUDGET DETAILS FOR THE PROPOSED PROJECTS

The following table shows the budget proposal for the funded projects title **“Formulation of Phytosomes Loaded with Alcoholic Extract of Cardio spermum halica cabum - Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery”**

S.NO	DESCRIPTION	AMT IN RUPEES
1	Researcher (Personnel)	18,000
2	Planning and designing	17,000
3	Drugs and chemicals purchase	23,000
4	Method development	27,000
5	Qualitative and Quantitative analysis	57,000
6	Supervising and managing fee	22,000
7	Travel allowance	6,000
8	Miscellaneous	5,000
	Total	1,75,000 /-

Project Invigilator



Principal

PRINCIPAL.
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK).
SALEM - 637301



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08.12.2021

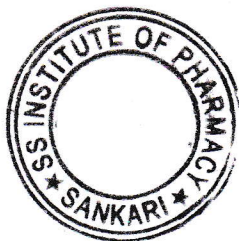
RESEARCH GRANT UTILISATION CERTIFICATE

To

The Research and Development Head,
Pulse Pharmaceuticals Pvt Ltd,
Hyderabad, Telangana.

Subject : Financial assistance for project scheme-Reg

I hereby certify that amount of Rs 1,75,000 (One Lakh Seventy-Five Thousand) received as part of research grant from The Research and Development Head, Pulse Pharmaceuticals Pvt Ltd, Hyderabad Telangana was actually used by Dr. C. Jothimanivannan for conducting the minor research project titled *Formulation of Phytosomes Loaded with Alcoholic Extract of Carcliospermum halicacabum Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery.*



Dr. C. Jothimanivannan

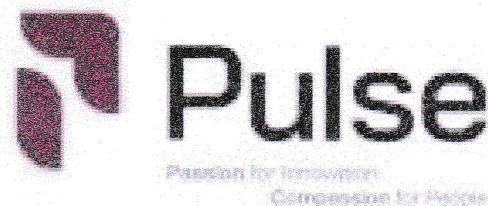
Principal

SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301.

Place : Sankari

Date : 08.12.2021

Address: Plot No. 18/1, Sector-III, HUDA Techno Enclave,
HITEC City, Hyderabad, Telangana 500081
CIN NO: U24239TG1997PTC026151
REG NO: 026151
Contact: 04027007049
Email: info@pulsepharma.net



To

20.11.2023

Dr. C.Jothimanivannan,
Principal,
SS Institute of Pharmacy,
Sankari, Salem.

Subject: Gratitude for the Successful Completion of the Phytosome-Based Drug Delivery Project


Dear Sir,

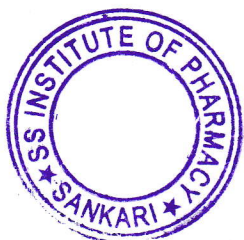
On behalf of our organization, I would like to express our sincere appreciation and warm congratulations on the successful completion of the project: *"Formulation of Phytosomes Loaded with Alcoholic Extract of Cardiospermum halicacabum – Soya Lecithin Phospholipid Complex for Enhanced Drug Delivery."*


This achievement was made possible through your generous support. Your invaluable contribution ensured the smooth execution of the project and the realization of all its key goals. This success stands as a reflection of both the dedication of our project team and your steadfast commitment to fostering innovation in drug delivery technologies.

We are truly grateful for the opportunity to partner with you. Your support has made a lasting impact, and we look forward to the possibility of future collaborations.

Warm regards,


The Research and Development Head,
Pulse Pharmaceuticals Pvt Ltd,
Hyderabad




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



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Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

ABSTRACT

Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium

This research focuses on the formulation and evaluation of a fast-dissolving oral thin film of Atorvastatin Calcium, a widely prescribed lipid-lowering agent used in the management of hyperlipidemia and cardiovascular diseases. The goal of this project is to develop an innovative oral thin film that dissolves rapidly in the mouth, offering a convenient and patient-friendly alternative to conventional tablets. The oral thin film is particularly beneficial for patients who have difficulty swallowing pills or require a rapid onset of action. The formulation process involves selecting suitable film-forming polymers such as hydroxypropyl methylcellulose (HPMC) and polyvinyl alcohol (PVA) to ensure that the film has the desired mechanical strength, flexibility, and dissolution properties. The films are prepared using the solvent casting method, and various excipients like plasticizers, sweeteners, and flavoring agents are incorporated to enhance patient compliance. The prepared films are evaluated for thickness, uniformity, tensile strength, disintegration time, and drug release profile. In vitro dissolution studies are conducted to assess the rate of drug release from the thin film, and the results are compared with conventional oral dosage forms. The aim is to demonstrate that the fast-dissolving oral thin film provides a quicker onset of action and improved bioavailability, making it an effective and user-friendly dosage form for Atorvastatin Calcium.



[Signature]
**PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301**



SS INSTITUTE OF PHARMACY

(A unit of VS Educational & Charitable Trust)

Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 05.12.2021

To

Ms. Anjali Sharma,
CEO,
Sterling Lab Pvt Ltd,
Hosur, Krishnagiri,
Tamil Nadu.

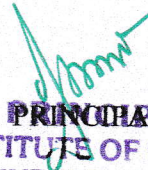
Dear Madam,

Sub: Request for Financial Support and Guidance for R&D Work in Funded Project – Reg

his letter is to bring to your kind notice that we (SS Institute of Pharmacy, Salem) are involving our staff and students in research-oriented activities. In this regard, we kindly request your support and permission to undertake a consultancy-related project titled "*Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium*" in association with your esteemed organization. This collaboration will enrich our knowledge and foster the development of innovative ideas with social relevance.

Investigator: Mr.S. Pravin Kumar, AP / SSIP

Thanking You


PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



NH-544, Kuppanur (Po), Sankari (Tk), Salem(Dt) – 637301, Tamilnadu, India
Phone : 04283 241080 | E-mail : ssip1718@gmail.com | Website : www.ssip.edu.in

Address: 57, SIPCOT Industrial Complex, Hosur-635 126, India.
CIN: U73100DL1980PTC011137
REG NO: 11137
Contact No: +91-4344-276 071
Email: hosur.admin@sterling.com



Date : 29.12.2021

To

Mrs. S.Pravin Kumar
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

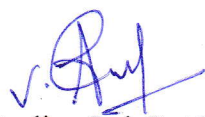
Dear Sir,

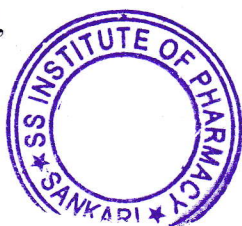
Subject: Acceptance and Provision of Financial Assistance for Funded Project – Reg.


We are pleased to inform you that the proposal submitted for the project titled "*Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium*" of Rs. 1,00,000/- (One lakh) as the project appears to be innovative. We kindly request the Principal Investigator to submit the monthly report.

Project title	Principal Investigator	Project duration
Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium	Mr. S.Pravin Kumar	1 year

Thanking you,


Sterling Lab Pvt Ltd,
Hosur, Krishnagiri,
Tamil Nadu.




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



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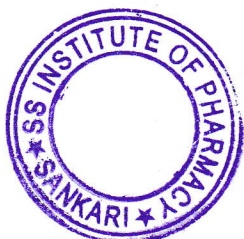
BUDGET DETAILS FOR THE PROPOSED PROJECTS

The following table shows the budget proposal for the funded projects title “**Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium**”

S.NO	DESCRIPTION	AMT IN RUPEES
1	Planning and designing	12,000
2	Major purchasing component	19,000
3	Development fee	22,000
4	Analytical techniques	37,000
5	Supervising and Managing fee	5,500
6	Travel allowance	4,500
	Total	1,00,000 /-


Project Invigilator


Principal
PRINCIPAL,
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI
SALEM - 637301





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Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and Directorate of Medical Education, Chennai.

09.02.2022

RESEARCH GRANT UTILISATION CERTIFICATE

To

Ms. Anjali Sharma, CEO,
Sterling Lab Pvt Ltd,
Hosur, Krishnagiri,
Tamil Nadu.

Subject : Financial assistance for project scheme-Reg

I hereby certify that amount of Rs 1,00,000 (One Lakh) received as part of research grant from The Sterling Lab Pvt Ltd, Hosur, Krishnagiri, Tamil Nadu was actually used by Mr.S. Pravin Kumar, for conducting the minor research project titled *Formulation Of Fast Dissolving Oral Thin Film Of Atorvastatin Calcium.*



Place : Sankari

Date : 09.02.2022

Dr.C.Jothimanivannan

Principal

SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301.

Address: 57, SIPCOT Industrial Complex,
Hosur-635 126, India.
CIN: U73100DL1980PTC011137
REG NO: 11137
Contact No: +91-4344-276 071
Email: hosur.admin@sterling.com



To

16.01.2023

Mrs. S.Pravin Kumar
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Sir,

Subject: Appreciation for Successful Completion of

Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium


On behalf of our company, I would like to extend our heartfelt appreciation and sincere congratulations on the successful completion of the *Formulation of Fast Dissolving Oral Thin Film of Atorvastatin Calcium* funded through your generous support.

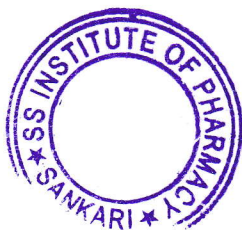
Thanks to your invaluable contribution, the project was implemented smoothly and met all of its key objectives. The success of this endeavor reflects not only the dedication and hard work of the project team but also your trust and commitment to empowering meaningful change.


We are deeply grateful for the opportunity to partner with you. Your support made a lasting difference, and we look forward to the possibility of future collaborations.

Once again, thank you for your belief in our mission and for helping us bring this vision to life.

Warm regards,


Sterling Lab Pvt Ltd,
Hosur, Krishnagiri,
Tamil Nadu.




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301.



SS INSTITUTE OF PHARMACY

(A unit of VS Educational & Charitable Trust)

Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 09.01.2022

To

Managing Director,
Biomicon Pharma India,
Chennai,
Tamil Nadu.

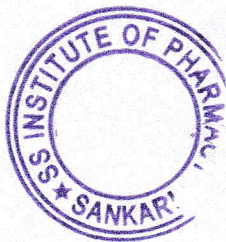
Dear Sir/Madam,

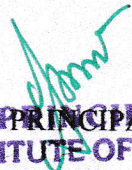
Sub: Request for Financial Support and Guidance for R&D Work in Funded Project – Reg

This letter is to bring to your kind notice that we (SS Institute of Pharmacy, Salem) are involving our staff and students in research-oriented activities. In this regard, we kindly request your support and permission to undertake a consultancy-related project titled "*Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms*" in association with your esteemed organization. This collaboration will enrich our knowledge and foster the development of innovative ideas with social relevance.

Investigator: Mrs.K. Sowndharya, AP / SSIP

Thanking You ,




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301

Address: OLD NO. 18, NEW NO. 32 DR. AMBEDKAR ROAD,
KODAMBAKKAM, CHENNAI, Tamil Nadu, India - 600024.

CIN NO: U52100TN2012PTC086554

REG NO: 86554

Contact: 04423652388

Email: biomiicron@gmail.com

Biomiicron[®]
Pharma India Pvt.Ltd.

Date : 31.01.2022

To

Mrs.K.Sowndharya
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Sir,

Subject: Acceptance and Provision of Financial Assistance for Funded Project – Reg.

We are pleased to inform you that the proposal submitted for the project titled "Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms" has been approved by our organization for possible funding of Rs. 1,00,000, as the project appears to be innovative. We kindly request the Principal Investigator to submit the monthly report.


Project title	Principal Investigator	Project duration
Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms	Mrs.K.Sowndharya	1.5 Years

Thanking you,



Managing Director,
Biomicron Pharma India,
Chennai,




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301.



SS INSTITUTE OF PHARMACY

(A unit of VS Educational & Charitable Trust)

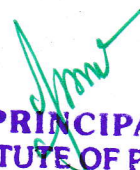
Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

ABSTRACT

Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms

This research focuses on the development and validation of a robust high-performance liquid chromatography (HPLC) method for the quantitative determination of Nicorandil in oral solid dosage forms. Nicorandil is a potassium channel opener used in the treatment of angina, and accurate quantification is critical for ensuring its therapeutic efficacy and safety in tablet formulations. The objective of this study is to establish a precise, sensitive, and reproducible analytical method that complies with ICH (International Council for Harmonisation) guidelines for method validation. The HPLC method will be developed using a suitable mobile phase, column, and detection wavelength to achieve optimal separation and resolution. Key validation parameters, such as linearity, accuracy, precision, specificity, and limit of detection (LOD) and limit of quantification (LOQ), will be evaluated. The method will be applied to analyze the Nicorandil content in marketed tablet formulations and in-house formulations to verify its reliability and consistency. This validated method will ensure the quality control of Nicorandil-containing dosage forms, thereby contributing to the pharmaceutical industry's goal of delivering safe and effective medications to patients.




**PRINCIPAL,
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301**

NH-544, Kuppanur (Po), Sankari (Tk), Salem(Dt) – 637301, Tamilnadu, India

Phone : 04283 241080 | E-mail : ssip1718@gmail.com | Website : www.ssip.edu.in



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Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

BUDGET DETAILS FOR THE PROPOSED PROJECTS

The following table shows the budget proposal for the funded projects title “**Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms**”

S.NO	DESCRIPTION	AMT IN RUPEES
1	Planning, designing analysis	14,000
2	Major Equipment and chemical	18,000
3	Method Development fee	24,000
4	Qualitative Analysis	34,000
5	Supervising and Managing fee	6,000
6	Travel allowance and Miscellaneous	4,000
	Total	1,00,000 /-

Project Invigilator



Principal

PRINCIPAL
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI
SALEM - 637301



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Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and Directorate of Medical Education, Chennai.

06.04.2022

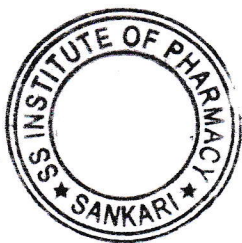
RESEARCH GRANT UTILISATION CERTIFICATE

To

Managing Director,
Biomicon Pharma India,
Chennai,
Tamil Nadu.

Subject : Financial assistance for project scheme-Reg

I hereby certify that amount of Rs 1,00,000 (One Lakh) received as part of research grant from The Sterling Lab Pvt Ltd, Hosur, Krishnagiri, Tamil Nadu was actually used by Mrs.K. Sowndharya, for conducting the minor research project titled **"Development and Validation Of HPLC Method For Quantitative Determination Of Nicorandil In Oral Solid Dosage Forms"**



Place : Sankari

Date : 06.04.2022

Dr.C.Jothimanivannan

Principal

SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301.

Address: OLD NO. 18, NEW NO. 32
DR. AMBEDKAR ROAD,
KODAMBAKKAM, CHENNAI,
Tamil Nadu, India - 600024.
CIN NO: U52100TN2012PTC086554
REG NO: 86554
Contact: 04423652388
Email: biomiicron@gmail.com

Biomiicron
Pharma India Pvt. Ltd.

To

15.08.2024

Mrs.K.Sowndharya
Assistant Professor,
SS Institute of Pharmacy,
Sankari, Salem.

Dear Mam,

Subject: Appreciation for Successful Completion of *Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms*

On behalf of Biomiicron, I would like to extend our heartfelt appreciation and sincere congratulations on the successful completion of the *Development and Validation of HPLC Method for Quantitative Determination of Nicorandil in Oral Solid Dosage Forms* funded through your generous support.

Thanks to your invaluable contribution, the project was implemented smoothly and met all of its key objectives. The success of this endeavor reflects not only the dedication and hard work of the project team but also your trust and commitment to empowering meaningful change.

We are deeply grateful for the opportunity to partner with you. Your support made a lasting difference, and we look forward to the possibility of future collaborations.

Once again, thank you for your belief in our mission and for helping us bring this vision to life.

Warm regards,

Managing Director,
Biomiicron Pharma India,
Chennai,



PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



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Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 14.04.2022

To

Mr . Abdul Lathiff,
The Managing Director ,
Arbor pharmaceuticals ,
Trichy.

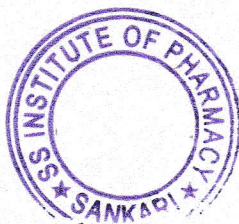
Dear Sir,

Sub: Request financial support and guidance for R&D work in Funded Project-Reg

This letter is to bring to your kind notice that we (SS Institute of pharmacy , Salem) are involving our staffs and students in the Research-oriented activities. In this regard, we request you to grant the permission to do the consultancy related project in the title "Biodegradable spoon with digestive benefits: A papain – Infused innovation " associated with your organization. So that, it will enrich our knowledge and develop innovative ideas of social relevance.

Investigator: Mr .T. Sampath kumar , AP / SSIP

Thanking You ,



Principal
PRINCIPAL.
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301



SS INSTITUTE OF PHARMACY

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Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.
Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

Date : 28.04.2022

To

Mr .T. Sampath kumar ,
Assistant Professor ,
SS Institute of pharmacy ,
Sankari. Salem .

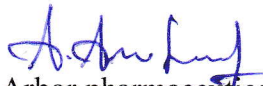
Dear sir ,

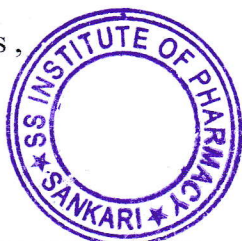
Subject : Acceptance and provision of financial assistants for funded project – Reg.

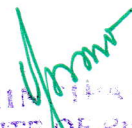
We are happy to intimate that the proposal submitted on project work titled '*Biodegradable spoon with digestive benefits : A papain – Infused innovation ' has been approved by our organization for possible funding of Rs. 1,03,000 / -(one lakh three thousand) as the project seems to be innovative. We request the Principal Investigator to submit the monthly report.

Project title	Principal Investigator	Project duration
Biodegradable spoon with digestive benefits : A papain – Infused innovation	Mr .T. Sampath kumar , AP / SSIP	1 years

Thanking you,


Arbor pharmaceuticals ,
Trichy.




PRINCIPAL
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



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Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

ABSTRACT

A Papain-Infused Innovation

This project aims to develop an eco-friendly biodegradable eating utensil with added health benefits by incorporating papain, a digestive enzyme derived from papaya. The research focuses on formulating the spoon using a blend of wheat flour and potato starch, materials known for their biodegradability. The inclusion of papain seeks to aid digestion by breaking down proteins when used in everyday dining. The study emphasizes the environmental impact of reducing plastic waste while promoting digestive health benefits. A key part of the research involves optimizing the mechanical strength and stability of the spoon, ensuring it can handle regular food consumption without losing its structural integrity. Various analytical methods such as tensile strength testing, biodegradability assays, and enzyme activity measurements will be employed to evaluate the spoon's performance. Market analysis will also be conducted to assess consumer interest in a functional, eco-friendly utensil. The results of this study aim to provide an innovative solution for reducing plastic waste while simultaneously promoting health, contributing to sustainability and wellness. This biodegradable spoon presents a practical approach to reducing the environmental footprint of disposable utensils while providing additional health benefits to users.



[Signature]
**PRINCIPAL,
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301**



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and The Directorate of Medical Education, Chennai.


BUDGET DETAILS FOR THE PROPOSED PROJECTS

The following table shows the budget proposal for the funded projects title **“Biodegradable Spoon with Digestive Benefits: A Papain-Infused Innovation”**

S.NO	DESCRIPTION	AMT IN RUPEES
1	Researcher (Personnel)	13,500
2	Major Equipment and chemical Purchase	19,000
3	Method Development	25,000
4	Qualitative and quantitative Analysis	35,500
5	Supervising and Managing fee	5,500
6	Travel allowance and Miscellaneous	4,500
	Total	1,03,000 /-


Project Invigilator




Principal
PRINCIPAL
SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301



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09.06.2022

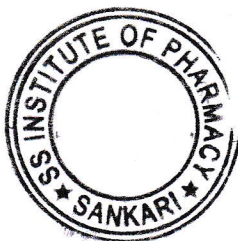
RESEARCH GRANT UTILISATION CERTIFICATE

To

Mr. Abdul Lathiff,
The Managing Director,
Arbor pharmaceuticals,
Trichy.

Subject: Financial assistance for project scheme-Reg

I hereby certify that amount of Rs 1,03,000 (One Lakh Three Thousand) received as part of research grant from Arbor pharmaceuticals, Trichy, Tamil Nadu was actually used by Mr. T. Sampath kumar, for conducting the minor research project titled "*Biodegradable Spoon With Digestive Benefits: A Papain – Infused Innovation*"



Place : Sankari

Date : 09.06.2022

Dr. C. Jothiramanivannan

Principal

SS INSTITUTE OF PHARMACY
KUPPANUR (PO), SANKARI (TK)
SALEM - 637301.

Address :7A, ANANDHA NAGAR, CHERAN
SALAI, LICCOLONY, TRICHY-600021
CIN :U24110TN2013PTC091977
REG NO :91977
PH No: 9788994167
Email :capanneerselvam@gmail.com



To

20.06.2023

Mr .T. Sampath kumar ,
Assistant Professor ,
SS Institute of pharmacy ,
Sankari, Salem .

Dear sir ,

**Subject : Appreciation for Successful Completion of Biodegradable spoon with digestive
benefits : A Papain-Infused Innovation**

On behalf of our Organization, I would like to extend our heartfelt appreciation and sincere congratulations on the successful completion of the project, funded through your generous support.


Thanks to your invaluable contribution, the project was implemented smoothly and met all of its key objectives. The success of this endeavor reflects not only the dedication and hard work of the project team but also your trust and commitment to empowering meaningful change.

We are deeply grateful for the opportunity to partner with you. Your support made a lasting difference, and we look forward to the possibility of future collaborations.


Once again, thank you for your belief in our mission and for helping us bring this vision to life.

Warm regards,

Thanking you,


Arbor Pharmaceuticals ,
Trichy.




PRINCIPAL.
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301