Date: 04th July 2025

To
The Registrar
Swami Rama Himalayan University
Swami Ram Nagar, Jolly Grant, Dehradun

Subject: Request for Declaration as Executive Authority for UCOST Project Submission.

Respected Sir,

I am submitting a research project titled **"From Forest to Pharmacy: Development of Antifungal Gel using Underutilized Plants of Uttarakhand"** for funding consideration under the Uttarakhand State Council for Science and Technology (UCOST).

As part of the submission requirements, a declaration by the Executive Authority of the Institution is essential to authenticate the institutional affiliation and support for the proposed project.

I kindly request you to provide the necessary declaration on behalf of the University, as per the required format.

Thank you for your time and support.

Sincerely,

Dr. Ujjwal Nautiyal
Associate Professor
School of Pharmaceutical Sciences
Swami Rama Himalayan University

Dean
School of Pharmaceutical Sciences
Swami Rama Himalayan University
Dehradun

'A' may pl be considered for approval.

Approved

HVC

4/07/25

Director Research
Swami Rama Himalayan University

Vice-Chancellor
Swami Rama Himalayan University

Registrar
Swami Rama Himalayan University

To

The Director
Uttarakhand Council for Science and Technology
Govt. of Uttarakhand,

Subject: Submission of Research Proposal

Respected Sir,

We are submitting research proposal entitled, "From Forest to Pharmacy: Development of Antifungal Gel using Underutilized Plants of Uttarakhand". This proposal is mainly focused on the exploration, identification, and scientific validation of underutilized medicinal plants found in the biodiverse forests of Uttarakhand for their potential antifungal properties. The project aims to bridge traditional ethnobotanical knowledge with modern pharmaceutical formulation by developing a safe, effective, and eco-friendly topical antifungal gel. The study will involve the collection and authentication of plant materials, extraction and phytochemical screening, evaluation of antifungal activity against common fungal pathogens, and formulation optimization. This initiative not only targets the development of a novel herbal antifungal product but also promotes the sustainable utilization of local flora, contributing to biodiversity conservation and socio-economic upliftment of local communities through responsible sourcing and value addition.

Thanking You,

With Warm Regards

Yours Sincerely

Dr Ujjwal Nautiyal
(Principal Investigator)

"From Forest to Pharmacy: Development of Antifungal Gel using Underutilized Plants of Uttarakhand"

Submitted

to

Uttarakhand Council for Science and Technology

GOVT. OF UTTARAKHAND

Submitted by
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UTTARAKHAND STATE COUNCIL FOR SCIENCE & TECHNOLOGY

(GOVT. OF UTTARAKHAND)
DEHRADUN- 248007

PROFORMA FOR SUBMISSION OF R&D AND DEMONSTRATION PROJECTS IN THE IDENTIFIED AREAS
(Only the Online Mode of Application Will Be Accepted on Call Basis)

PART I: GENERAL INFORMATION

1. **Project Title:** "From Forest to Pharmacy: Development of Antifungal Gel using Underutilized Plants of Uttarakhand "
2. **Name of the Institute/University/Organisation:** School of Pharmaceutical Sciences, Swami Rama Himalayan University, Dehradun.
3. **Status of the Institute:** Private University (Est. vide Uttarakhand Act No. 12 of 2013)
4. **Name and designation of the Executive Authority of the Institute / University forwarding the application:** Registrar, Swami Rama Himalayan University
5. **Category of the Project:** R & D (R&D; Demonstration; Other)
6. **Specific Area:** *STEM Education & Capacity Building*
7. **Duration:** 2 Years
8. **Total Cost (Rs.)** 6,96,000/-
9. **Is the project Single Institutional or Multiple-Institutional:** Single Institutional
10. **If the project is multi-institutional, please furnish the following:** NA
11. **Name of Project Coordinator: NA**
12. **Affiliation: NA**
13. **Address: NA**

14. Project Summary:

The proposed two-year interdisciplinary project aims to develop a scientifically validated, eco-friendly herbal antifungal gel utilizing wild, underutilized medicinal plants of Uttarakhand. Rooted in the region's rich ethnomedicinal traditions, many of these plants have long been used by local communities to treat skin infections and wounds but remain largely uninvestigated in modern pharmacological contexts.

The project will begin with an ethnobotanical survey and documentation of traditionally used plants for dermatological conditions in selected tribal and rural areas of Uttarakhand. Selected species will be collected, taxonomically authenticated, and subjected to solvent extraction followed by phytochemical screening to identify bioactive compounds.

Antifungal efficacy of plant extracts will be evaluated using standard microbiological assays (e.g., disc diffusion, MIC determination) against key human skin fungal pathogens:

- *Trichophyton rubrum*
- *Microsporum gypseum*
- *Epidermophyton floccosum*
- *Candida albicans*

Extracts showing potent antifungal activity will be incorporated into a topical gel formulation using suitable gelling agents. The gel will undergo evaluation for physicochemical properties (pH, viscosity, spreadability), antifungal efficacy, and stability under ICH guidelines. Safety profiling (skin irritation studies) will also be conducted.

Expected outcomes include a novel, effective herbal gel for the treatment of dermatophytic and candidal infections, with scope for future clinical trials and commercialization. The project promotes sustainable use of local plant biodiversity, conservation of traditional knowledge, and rural empowerment through value addition and capacity building.

This initiative aims to address public health challenges related to skin mycoses in an affordable and natural way, aligning with global movements toward plant-based therapeutics and regional bioresource utilization.