
17 PARTNERSHIPS FOR THE GOALS
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17 PARTNERSHIPS FOR THE GOALS

SDG 17.2.2 requirement and the conference posters you uploaded, the Chaitanya (Deemed to be) University National Seminar on "Advances in Microbiological Perspectives for Sustainable Future" is a strong piece of evidence for SDG 17.2.2 – Cross-Sectoral Dialogue about SDGs.

SDG 17.2.2 asks whether the university initiates and participates in cross-sectoral dialogue about the SDGs, such as conferences involving government, NGOs, industry, research institutions, or other sectors.

Recommended SDG 17.2.2 title

SDG 17.2.2 – Cross-Sectoral Dialogue and Collaborative Conferences for Sustainable Development

Suggested evidence statement for Chaitanya (Deemed to be) University

SDG 17.2.2 – Cross-Sectoral Dialogue about the Sustainable Development Goals

Title of Activity National Seminar on "Advances in Microbiological Perspectives for Sustainable Future" Organizing Institution Department of Microbiology, Chaitanya (Deemed to be) University, Moinabad, Himayatnagar, Telangana, India Date 15–16 February 2025

SDG Alignment

SDG 17 – Partnerships for the Goals

Indicator 17.2.2 – Cross-Sectoral Dialogue about SDGs

Description

Chaitanya (Deemed to be) University initiated and organized a National Seminar entitled "Advances in Microbiological Perspectives for Sustainable Future" on 15–16 February 2025 through its Department of Microbiology.

The seminar provided a platform for cross-sectoral academic, scientific, research and industry interaction on contemporary microbiological issues and their relevance to sustainable development. The programme brought together experts and participants from universities, government-supported research institutions, scientific organizations, research laboratories and industry.

The invited speakers and experts represented diverse sectors, including:

- CSIR-Central Food Technological Research Institute (CFTRI), Mysuru
- Osmania University, Hyderabad
- DBT-supported Centre for Cellular and Molecular Platforms (C-CAMP)
- MicrobZtech Labs Pvt. Ltd., Telangana
- Chaitanya (Deemed to be) University
- Faculty members, research scholars and postgraduate students

The seminar included scientific presentations and discussions on probiotics, microbiology, food biotechnology, SARS-CoV-2, biosafety, biorepositories, viral RNA, gut microbiome and human health, thereby facilitating the exchange of knowledge between academic institutions, government-supported research organizations and industry.

The participation of researchers and experts from different institutional and professional sectors demonstrates the University's role in creating a platform for knowledge exchange, collaborative research dialogue and sustainable solutions.

Relevance to SDG 17.2.2

The activity directly supports SDG 17.2.2 – Cross-Sectoral Dialogue about SDGs by bringing together stakeholders from:

University/Academia ↔ Government-supported Research Institutions ↔ Scientific Organizations ↔ Industry ↔ Researchers ↔ Students

Such interaction strengthens partnerships, promotes interdisciplinary knowledge sharing and encourages collaborative approaches to challenges related to health, biotechnology, microbiology and sustainable development.

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INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)











Evidence Available

- National Seminar invitation/brochure.
- Details of the Chief Patron, Patrons, Conveners and Organizing Committee.
- Profiles and affiliations of invited keynote speakers and subject experts.
- Programme details showing participation from academic, research and industry sectors.
- Photographs/posters of the seminar.
- Evidence of participation of research scholars, postgraduate students and external experts.

Conclusion


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Hanumakonda - 506001, Telangana, India

National Seminar on
Advances in Microbiological Perspectives for Sustainable Future

CERTIFICATE

This certificate is awarded to P. Princy Priyanka

for Poster Presentation / Oral Presentation/ Participation entitled Isolation and Screening of Streptomyces Producing Thermophilic fungi from different regions of Mancherial District in National Seminar on "Advances in Microbiological Perspectives for Sustainable Future" organized by Department of Microbiology on 15 & 16 February, 2025

Convenor
Prof. B. S. Anuradha,
Dean, Faculty of Science.

Oraganising Secretary
Prof. B. Sreelatha
Head, Dept. of Microbiology.

The National Seminar on "Advances in Microbiological Perspectives for Sustainable Future" demonstrates Chaitanya (Deemed to be) University's commitment to cross-sectoral dialogue, knowledge exchange and partnership-building for sustainable development. The involvement of academic institutions, government-supported research organizations, scientific bodies and industry provides appropriate evidence for SDG 17.2.2 – Cross-Sectoral Dialogue about SDGs.



The structure above follows the core SDG 17.2.2 requirement: evidence of a university initiating/participating in cross-sectoral dialogue, with conferences being an accepted example.

Research Journal of Biotechnology Vol. 20 (10) October (2025)
Res. J. Biotech.

Exploring the Inhibitory Potential of CoQ10 on Prenyl transferases through *in silico* Approach

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Abstract

Prenyltransferases including Farnesyltransferase (FTase) and Geranylgeranyl transferase-I (GGTase-I), play a crucial role in post-translational modifications by facilitating the attachment of isoprenoid groups to specific proteins, thereby influencing their localization and functionality. Dysregulation of these enzymes has been linked to various diseases such as cancer and neurodegenerative conditions. In this study, in order to identify novel anticancer targets, we employed in silico techniques to investigate the inhibitory effects of CoQ10, a naturally occurring compound, on FTase and GGTase-I. We performed molecular docking analyses to assess the binding affinity, stability and interaction profiles of CoQ10 with the active sites of these enzymes. Standard drugs recognized for their inhibitory effects were used as reference compounds for our comparative evaluation.

The findings revealed that CoQ10 shows a significant binding affinity and advantageous interaction characteristics with both FTase and GGTase-I, matching or surpassing those of conventional inhibitors. This underscores the potential of CoQ10 as a viable candidate for further exploration as a dual prenyl transferase inhibitor. Additional in vitro and in vivo research are necessary to confirm therapeutic efficacy.

Keywords: CoQ10, Farnesyltransferase, Geranylgeranyl transferase-I, Prenyltransferases.

Introduction

Cancer is a multifaceted disease marked by unregulated cell growth, evasion of programmed cell death and the ability to spread to other parts of the body. The World Health Organization (WHO) reports that cancer continues to be a major global health challenge, responsible for nearly 10 million fatalities in 2020[11]. This disease can manifest in various regions of the body with lung, breast, prostate and colorectal cancers being the most prevalent types[10]. A major challenge in cancer treatment is drug resistance which frequently develops due to changes in the drug targets found in cancer cells. Such alterations can reduce the effectiveness of therapies and facilitate the advancement of the disease[4]. This situation underscores the urgent need to discover new therapeutic targets to enhance patient outcomes. Prenyltransferases (PTs) represent a varied group of enzymes responsible for facilitating the transfer of prenyl groups such as farnesyl, geranyl, or geranylgeranyl from donor molecules, primarily isoprenoid pyrophosphates to acceptor molecules which include proteins, lipids and aromatic compounds. This post-translational modification influences hydrophobicity, membrane association and interactions between proteins, thereby playing a vital role in essential cellular functions such as signal transduction, protein localization and cell proliferation[8]. The inhibition of farnesyl transferase (FTase) and geranylgeranyl transferase (GGTase) has been widely investigated in relation to cancer therapy[5]. Nevertheless, the emergence of resistance to FTIs, attributed to alternative prenylation by GGTase, poses a significant obstacle. Therefore, future research should focus on identifying alternative inhibitors.

Coenzyme Q10 (CoQ10) is a naturally occurring antioxidant that plays a crucial role in the production of cellular energy. It is primarily located in the heart, liver, kidneys and pancreas which are organs with high energy requirements. As people age, the body's natural synthesis of CoQ10 diminishes, leading to increased interest in supplementation to address potential deficiencies and their related health consequences[6]. The protective function of antioxidants in cancer prevention and progression is well documented. They achieve this protective effect by diminishing oxidative activation, preventing DNA damage, regulating growth-related signaling pathways and promoting autophagy and apoptosis[3,9]. Coenzyme Q10 (CoQ10), a lipophilic compound synthesized in nearly all cells, is one of the key antioxidants involved in these protective mechanisms[2].

In this study, the anticancer properties of the natural antioxidant CoQ10, administered as a supplement, are examined through *in silico* analyses, specifically focusing on its effects on Prenyltransferases viz. Farnesyl transferase (FTase) and Geranylgeranyl transferase-I (GGTase-I).

Material and Methods

Preparation of ligand: In this study, the natural antioxidant CoQ10, along with the standard medications Lonafarnib and GGTI-298, which acted as ligands, were depicted using Chem Draw software and saved in .mol format. Subsequently, these ligands were transformed into a 3D PDB format through Accelrys Discovery Studio 2.3.

Following this, water and hydrogen atoms were incorporated and energy minimization was performed, culminating in the final structure being saved as a pdbqt file using Autodock software.

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Electro Therapy


INTERNATIONAL SOCIETY OF GENE AND CELL THERAPY
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AWARD OF EXCELLENCE
IDT BEST PARTNER AWARD - BLOOD DONATION
Dr B. Srilatha Garu
For participation in resource mobilisation for humanitarian causes
Give the Gift of life-Donate Blood
Dr G. Vijay Kumar

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INSTITUTION'S INNOVATION COUNCIL (Ministry of Education Initiative)
NATIONAL SERVICE SCHEME
SUSTAINABLE DEVELOPMENT GOALS

Research Journal of Biotechnology Vol. **20 (10)** October **(2025)**
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Exploring the Inhibitory Potential of CoQ10 on Prenyl transferases through *in silico* Approach

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Key Outcomes

1. Created a platform for interaction between academia, research institutions and industry.
2. Promoted interdisciplinary discussion on microbiology and biotechnology.
3. Facilitated knowledge exchange between experts from different sectors.
4. Encouraged research scholars and students to engage with external scientific experts.
5. Strengthened institutional and professional networks for future research collaboration.
6. Addressed scientific themes relevant to sustainable health, biotechnology and societal well-being.
7. Promoted the role of collaborative research and innovation in achieving the Sustainable Development Goals.

IQAC Committee:

Sl. No.	Name	Role	Signature
1	Prof. T. Murali Krishna	IQAC Coordinator	
2	Dr. K. V. N. S. Pavan Kumar, EEE	Member	
3	Dr. J. Kumara Swamy, Chemistry	Member	
4	Dr. M. Raju, Biochemistry	Member	
5	Dr. M. Srinivasa Rao, Pharmacy	Member	
6	Mr. K. Praveen Kumar, Computer Science	Member	
7	Dr. R. Praveen Kumar, CSE	Member	
8	Mr. M. Naveen Kumar, Civil Engineering	Member	
9	Mr. B. Rajeshwar, ECE	Member	
10	Dr. P. Omkar, Agriculture	Member	
11	Mr. V. Deepak Kumar, Commerce & Business Management	Member	
12	Dr. A. Naveen, Physics & Electronics	Member	
13	Mr. B. Vasu, Mathematics & Statistics	Member	
14	Mr. B. Shivaprasad, Forensic Science	Member	
15	Mr. R. Sridevi, Mechanical Engineering	Member	

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Registrar

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