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Patent Search

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Inventor

Name	Address	Country
Dr. Mohit	Dean & Professor, IIMT College of Medical Sciences, IIMT University, 'O' Pocket, Ganga Nagar, Mawana Road, Meerut, Uttar Pradesh, Pin Code: 250001	India
Dr. Amit Kumar	Dean & Professor, School of Pharmaceutical Science, IIMT University, 'O' Pocket, Ganga Nagar, Mawana Road, Meerut, Uttar Pradesh, Pin Code: 250001.	India
Dr. Parmesh Kumar Dwivedi	Assistant Professor (Grade-II), Amity Institute of Pharmacy, Lucknow, Amity University Uttar Pradesh, Sector-125, Noida, Uttar Pradesh, Pin Code: 201313	India
Dr. Ravi Shekhar	Department of Pharmacy, Dr. Bhimrao Ambedkar University, Agra, Uttar Pradesh, Pin Code: 282002	India
Dr. Arun Kumar	Associate Professor, Faculty of Pharmacy, Integral University, Dasauli, Kursi Road, Lucknow, Uttar Pradesh, Pin Code: 226016	India
Dr. Raghvendra	Principal, Aligarh College of Pharmacy, Aligarh-Mathura Road, Sasni Gate, Aligarh, Uttar Pradesh, Pin Code: 202001	India
Ms. Seema Mahor	Assistant Professor, Vishveshwarya Group of Institutions, GT Road, Gautam Budh Nagar, Greater Noida Phase II, Uttar Pradesh, Pin Code: 203207.	India
Dr. Dinesh Kumar	Principal, Asha Pharmacy College, Kusmura, Baragaon, Varanasi, Uttar Pradesh, Pin Code: 221204	India
Dr. Kalpesh Gaur	Professor, Geetanjali Institute of Pharmacy, Geetanjali University, NH-8 bypass, Near Eklingpura Chouraha, Udaipur, Rajasthan, Pin Code- 313003	India
Mr. Bhuneshwar Dutta Tripathi	Associate Professor, Narayan Institute of Pharmacy, Gopal Narayan Singh University, Jamuhar, Sasaram, Bihar Pin Code: 821305	India
Mr. Akhilesh Kumar Pandey	Assistant Professor, Asha Pharmacy College, Kusmura, Baragaon, Varanasi, Uttar Pradesh, Pin Code: 221204	India

Applicant

Name	Address	Country
Dr. Mohit	Dean & Professor, IIMT College of Medical Sciences, IIMT University, 'O' Pocket, Ganga Nagar, Mawana Road, Meerut, Uttar Pradesh, Pin Code: 250001	India

Abstract:

The present invention relates to the synthesis and evaluation of anti-fungal cream. The synthesis involves the 2-bromo-1-phenylethanone (1) (0.01 mol), phenol (2) (0.02 mol) in dry acetonitrile was refluxed for about 6 h. The mixture was filtered and solvent was removed under reduced pressure. The obtained product was recrystallization from ethanol to afford compound 2-phenoxy-1-phenylethanone (3). The Schiff bases SA-1 and SA-2 were prepared by refluxed of compound (3) with aromatic anilines in the presence of glacial acetic acid (4) in ethanol. The molecular docking studies of, the compounds SA-1 and SA-2 were docked into the binding pocket of human squalene epoxidase (6CGN) and 14-alpha-demethylase (5TZ1) target proteins belong to Candida albicans. Anti-fungal activity of the test compounds was compared with the standard drug Clotrimazole and Terbinafine.

Complete Specification

The present invention relates to a synthesis and evaluation of anti-fungal cream of Schiff base compounds.

BACKGROUND OF THE INVENTION

Schiff bases, derived mostly from variety of heterocyclic rings, were reported to possess a broad spectrum of pharmacological activities with a wide variety of biological properties. Development of new chemotherapeutic Schiff bases is now attracting the attention of medicinal chemist. They are known to exhibit a variety of potent and pharmacologically useful activities include antibacterial, anticonvulsant, anti-inflammatory, anticancer, anti-hypertensive, anti-fungal, antipyretic, antimicrobial, anti-cytotoxic activity, hypnotic and herbicidal activities.

Schiff bases are identified as promising antimicrobial agents. The imine group present in such compounds (Schiff bases) has been shown to be essential for their biological activities. Clotrimazole and Terbinafine are the antifungal drugs containing nitrogen hetero atom into their structures. The ample evidence reported in the literature biological potential of Schiff bases containing C=N in their structure. The pharmacokinetic and pharmacodynamics behavior of molecules is influenced by their molecular properties, molecular size, flexibility and the presence of different pharmacophore features. The in vivo experimental determination of pharmacokinetic parameters synthesized compounds is uneconomical and time consuming. The molecular properties of the new compounds could help to eliminate the molecules likely to fail in the stage of drug discovery.

The incidence of opportunistic fungal infections has increased dramatically with increasing number of immune suppressed patients. Moreover, fungal pathogens easily develop resistance to commonly used antifungal agents. The challenge of treatment and prevention of invasive fungal infections is underscored by their high incidence.

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