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Sr.No	NAME OF THE TEACHER	TITLE OF THE BOOK / CHAPTER PUBLISHED	ISBN/ISSN NUMBER	NAME OF THE PUBLISHER
1.	Dr.U. Sambamoorthy	Computational modelling of drug disposition	978-81-954048-4-1	WPI Publishers- Elsevier index
2.	Mrs.Syeda Hina Naaz	Unfolding the potential of Benzothiazole derivatives As bioactive agents: Recent advances	ISBN:978-81-958789	Innovare academic sciences pvt ltd
3.	Mrs. G. Deepthi Reddy	Unfolding the potential of Benzothiazole derivatives As bioactive agents: Recent advances	ISBN:978-81-958789	Innovare academic sciences pvt ltd
4.	Mrs. J. Prathyusha	Molecular docking, synthesis, characterization of Sulfamethoxazole Schiff base metal complex and its antibacterial, Anti inflammatory,	978-81-19761-40-1	Advanced concepts in pharmaceutical research



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		Anti-depressant activity		
5.	Dr. Yamjala Ganesh	Combatting Antibiotic Resistance: Leveraging Fecal Microbial Transplantati on for Gut Health	ISSN: 0967-0912	Springer Nature Singapore Pte Ltd.



Computational modelling of drug disposition

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2.1 Introduction

In olden days, drug discovery had the focal point enormously on its effectiveness and selectivity in opposition to the biological target. As a consequence, virtually half of the drug components are unsuccessful at research investigations through clinical trials of phase II and III, due to the unwanted drug pharmacokinetics characteristics such as ADME as well as the toxicity (ADMET). The demands to organize the rising cost of novel drug development have altered the pattern since the mid-nineteenth century (Bergstrom, 2005). Especially, in-vitro evaluation of the disposition in the early segment of drug innovation has broadly been adopted to lessen the attrition rate at further superior stages. A lot of, in-vitro ADMET property associated high-throughput screening (HTS) techniques, have been originated and implemented effectively. The rapid boom of computational power, historic advancement of in-silico modeling algorithms, and copious computational programs have also been developed, which focus on modeling the ADMET distinctiveness. An extensive list of available lucrative ADMET modeling software has been developed until the date for drug innovations and research (Slavica, Marko, 2010). The computational model explication for the solubility forecast might afford the collections of chemical compounds, macro, and micro molecules screenings. These combinatorial libraries become supportive of distinguishing the substances which are potentially difficult to eradicate with inadequate solubility (Slavica, Marko, 2010). Further-more solubility forecast from chemical structure, such model's execution often can present an imminent into structure-solubility co-relationships and can illustrate



Chapter-

UNFOLDING THE POTENTIAL OF BENZOTHAZOLE DERIVATIVES AS BIOACTIVE AGENTS: RECENT ADVANCES

Sayedahinanaaz¹, Laxmi Devi BN², Deepthi
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ABSTRACT: Because of their wide spectrum of pharmacological properties, benzothiazole derivatives have attracted a lot of attention in recent years for study and development. It has been discovered that substances based on benzothiazoles are useful in the treatment of a number of illnesses, such as cancer, microbial infections, and cardiovascular conditions. Research on the synthesis of benzothiazole derivatives has been ongoing, and many synthetic techniques have been devised to get these molecules. the creation of something new (folds) Improved biological characteristics and specificity of novel



Combatting Antibiotic Resistance: Leveraging Fecal Microbial Transplantation for Gut Health

10

Prashasti Upreti, Lalchand D. Devhare,
Lara Hashim Abdulmageed, Yamjala Ganesh Kumar,
Rajesh Kumar, and G. Dharmamoorthy

Abstract

This chapter provides a comprehensive exploration of the relationship between gut microbes and human health. It explores the pivotal roles gut microbiota play in maintaining homeostasis, influencing metabolism, modulating the immune system, and even impacting neurological functions. The disruptive phenomenon of dysbiosis, characterized by an imbalance in the gut microbial community, is thoroughly examined, highlighting its association with various diseases, including inflammatory bowel diseases and antibiotic-resistant infections. Fecal microbiota transplantation emerges as a revolutionary therapy that seeks to restore healthy microbial balance in the gut along with addressing various gastrointestinal disorders and MDRO, presenting key insights from existing studies and case

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Abstract	<p>This chapter provides a comprehensive exploration of the relationship between gut microbes and human health. It explores the pivotal roles gut microbiota play in maintaining homeostasis, influencing metabolism, modulating the immune system, and even impacting neurological functions. The disruptive phenomenon of dysbiosis, characterized by an imbalance in the gut microbial community, is thoroughly examined, highlighting its association with various diseases, including inflammatory bowel diseases and antibiotic-resistant infections. Fecal microbiota transplantation emerges as a revolutionary therapy that seeks to restore healthy microbial balance in the gut along with addressing various gastrointestinal disorders and MDRO, presenting key insights from existing studies and case reports. As a promising avenue in combating antibiotic-resistant infections, FMT not only showcases its efficacy in MDRO decolonization but also holds future prospects in refining its applications and protocols.</p>	
Keywords (separated by " - ")	FMT - Dysbiosis - CDI - IBS - UC - MDRO	



Molecular Docking, Synthesis, Characterization of Sulphamethoxazole Schiff Base Metal Complexes and its Antibacterial, Anti-Inflammatory and Anti Depressant Activity

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Shushma Voggu ^{***} and Jammula Prathyusha ^{***}

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ABSTRACT

The goal of the study is to create metal complexes that are higher than schiff's base using metals like copper, metal, and metallic element, as well as to synthesis schiff's base, an antibacterial medication, using aromatic organic compounds like p-diethyl amino benzyldehyde and p-dimethyl amino benzyldehyde. Schiff bases are versatile organic compounds which are widely used and synthesized by condensation reaction of different amino compound with aldehydes or ketones known as imine. Schiff base ligands are considered as privileged ligands as they are simply synthesized by condensation. The synthesized schiff's bases were regenerate to its ion Schiff bases by treating with methyl group halide. The ion Schiff bases were regenerate to metal complexes by treating with metals like CuCl₂, ZnCl₂ and CdCl₂. All the synthesized compounds were characterised by Elemental analysis, IR and ¹H proton magnetic resonance. Docking study was performed to know the interaction of binding sites with protein receptor using MAO-B enzymes (PDB ID: 2BK5) and COX-2 enzyme (PDB ID: 5IKR) by Virtual Screening software for Computational Drug Discovery. Synthesized metal complexes were evaluated for antibacterial, anti inflammatory and antidepressant activity. Copper metal complexes showed potent antibacterial and anti-inflammatory activity. Significant anti-depressant activity was shown for 2A2 and 2B2 zinc metal complexes.

Keywords: Sulphamethoxazole; antibacterial; anti-inflammatory; antidepressant activity.

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have been made possible through the use of synthetic methodologies and improvements to existing technologies. Numerous biological actions, such as anticancer, antibiotic, antifungal, antimicrobial, HIV-I protease inhibition, and antiarteriosclerosis properties, have been demonstrated by benzothiazole derivatives. Research on the pharmacological characteristics of benzothiazole derivatives is still an intriguing field with the possibility of finding novel medications and treatments. The current overview of benzothiazole and its derivatives gives a thorough rundown of their biological activity and production. In addition to being a helpful resource for scientists engaged in synthetic chemistry and drug discovery, this review is anticipated to stimulate additional study and creation of benzothiazole-based molecules with improved pharmacological characteristics.

INTRODUCTION

Because of their many physiological roles, heterocyclic molecules like benzothiazole are particularly important in organic chemistry and drug discovery¹. The possible biological actions of benzothiazole and its derivatives have been the subject of much research. Benzothiazole derivatives, especially 2-aminobenzothiazoles, were studied in the 1950s for their potential muscle relaxant effects. Since then, a variety of pharmacological effects, such as those that are antibacterial, anti-inflammatory, analgesic, anticonvulsant, antiviral, anthelmintic, antioxidant, and anticancer, have been discovered in benzothiazole analogues^{2,3}.

One type of heterocycle that contains sulfur is called benzothiazole, which is made up of a thiazole ring fused to a benzene ring. Due to its strong pharmacological and biological activity, the benzothiazole ring system was first discovered in a variety of marine and terrestrial natural compounds. Today, it is widely employed as an enzyme inhibitor, vulcanization accelerator, antioxidant, plant growth regulator, anti-inflammatory, imaging reagent, fluorescence material, and electroluminescent device⁴⁻⁷. In particular, benzothiazole is a key compound in medicinal chemistry and has a wide range of biological activities, such as anti-cancer^{8,9}, anti-bacterial^{10,11}, anti-tuberculosis^{12,13}, anti-diabetic¹⁴, anthelmintic¹⁵, anti-tumor¹⁶⁻¹⁸, anti-viral^{19,20}, anti-oxidant²¹, anti-inflammatory^{22,23}, anti-glutamate and anti-parkinsonism²⁴, anticonvulsant²⁵, muscle relaxant activities²⁶, neuroprotective²⁷, and inhibitors of multiple enzymes²⁸. As a result, the synthesis of benzothiazoles is very desirable due to their strong biological activity and high therapeutic potential. Benzothiazole

