

*Innovations in Physical Chemistry:
Monograph Series*

A. K. Haghi | Lionello Pogliani | Ana Cristina Faria Ribeiro
Series Editors

Biochemistry, Biophysics, and Molecular Chemistry

Applied Research and Interactions



Francisco Torrens | Debarshi Kar Mahapatra | A. K. Haghi
Editors

CHAPTER 10

RECENT ADVANCES OF BENZIMIDAZOLE DERIVATIVES AS ANTI-HYPERTENSIVE AGENTS

KISHOR R. DANA^O* and DEBARSHI KAR MAHAPATRA

*Department of Pharmaceutical Chemistry, Dadasaheb Balpande
College of Pharmacy, Nagpur 440037, Maharashtra, India*

**Corresponding author. E-mail: kishordanao1982@gmail.com*

ABSTRACT

Benzimidazole (BZI) is an important pharmacophore privileged structure in medicinal chemistry. It is a heterocyclic aromatic organic compound which plays an important role in medical field owing to diverse pharmacological activities such as antimicrobial, antiviral, antidiabetic, antihypertensive, antiulcer, analgesic, antifungal, and anticancer activity. Hypertension is the chronic medical condition which is mainly responsible for cardiovascular diseases today. Targeting the AT₁ receptors of Angiotensin-II with nonpeptide-based drugs which are otherwise called angiotensin receptor blockers (ARBs), led to the control of hypertension. The current chapter indicated the progress of BZI in exhibiting antihypertensive activity.

10.1 INTRODUCTION

The use of benzimidazole (BZI) dates many years back. It is a heterocyclic aromatic organic compound comprising of a bicycle with the fusion of benzene and imidazole.¹ It is an important pharmacophore and a privileged structure in medicinal chemistry which is known to play a very important role with plenty of useful therapeutic activities such as antiulcer,