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PYRAZOLE MOIETY AS A SOURCE OF NATURAL PRODUCTS: A REVIEW

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Abstract. Pyrazole is an important nitrogen-containing heterocyclic scaffold that has attracted considerable attention in medicinal chemistry because of its diverse biological and pharmacological activities. Although naturally occurring pyrazole-containing compounds are relatively rare, several natural products possessing pyrazole nuclei have demonstrated significant therapeutic potential. These compounds exhibit antimicrobial, anti-inflammatory, antiviral, antioxidant, and anticancer properties, making them valuable candidates for drug discovery and development. The present study reviews the occurrence of pyrazole moieties in natural products, their biological significance, structural characteristics, and pharmaceutical applications. Furthermore, the role of pyrazole-containing natural products as lead compounds for the development of novel therapeutic agents is discussed. The findings highlight the importance of naturally derived pyrazole compounds in modern medicinal chemistry and emphasize future opportunities for the discovery of new bioactive molecules.

Keywords— Pyrazole, Natural Products, Heterocyclic Compounds, Medicinal Chemistry, Drug Discovery.

Introduction. Natural products have served as a primary source of therapeutic agents throughout human history. More than half of the currently approved pharmaceutical drugs are either directly obtained from natural sources or developed from