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A Review on Natural Sources Use for Drug Discovery

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Abstract: Natural products have long served as a foundational resource for drug discovery, offering structurally diverse molecules that are difficult to replicate through synthetic chemistry alone. Their biological specificity, ecological relevance, and evolutionary refinement make them exceptionally valuable as lead compounds for modern therapeutics. This review summarizes the major classes of natural products derived from plants, animals, microorganisms, and marine organisms, emphasizing their roles in shaping landmark drugs across infectious disease, oncology, metabolic disorders, and cardiovascular medicine. Emerging technologies including genome mining, biosynthetic pathway engineering, and heterologous expression have further expanded access to rare or previously inaccessible metabolites, enabling scientists to generate new analogs and enhance pharmacological potential. By integrating historical insights, technological advancements, and notable examples such as morphine, quinine, epibatidine, and marine-derived anticancer agents, this review underscores the

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enduring and expanding relevance of natural products as indispensable templates in the development of





future drug candidates.

