

*Editorial***Natural Product and its Functions****Rofi Melaer***

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EDITORIAL NOTE

A natural product is a chemical compound or substance created by a living creature and found in the natural world. Any substance generated by life is considered a natural product in the broadest sense. Natural molecules can also be created by chemical synthesis, and they have played an essential role in the evolution of organic chemistry by posing difficult synthetic targets. Natural products are organic chemicals separated from natural sources that are created by pathways of primary or secondary metabolism, according to the concept of organic chemistry. The term is frequently narrowed to secondary metabolites in the field of medical chemistry. Secondary metabolites are not required for survival, but they do provide an evolutionary advantage to organisms that make them. Many secondary metabolites are cytotoxic, and they have been selected and developed for use as "chemical warfare" agents against prey, predators, and competing species during evolution. Basic research on potential bioactive components for commercial development as lead molecules in drug discovery could come from natural sources. Despite the fact that natural products have inspired numerous drugs, pharmaceutical companies have paid less attention to drug development from natural sources in the twenty-first century, partly due to unreliable access and supply, intellectual property, cost, and profit concerns, seasonal or environmental variability in composition, and loss of sources due to rising extinction rates. The main and secondary metabolites are two important categories of natural compounds. The survival of the organism that creates primary metabolites is dependent on their intrinsic function. Secondary metabolites, on the other hand, provide an external purpose, affecting mostly other species. Secondary

metabolites are not required for survival, but they do improve the organism's competitiveness in its environment. Some secondary metabolites have therapeutic qualities due to their capacity to regulate metabolic and signal transduction pathways. Primary and secondary metabolites are terms used to describe natural compounds, particularly in the field of organic chemistry. In the domains of medicinal chemistry and pharmacognosy, a more limited definition that limits natural products to secondary metabolites is widely utilized.

Primary metabolites

Carbohydrates, lipids, amino acids, and nucleic acids are examples of primary metabolites, which are the basic building blocks of life. Respiratory and photosynthetic enzymes are primary metabolites involved in energy production. Enzymes, on the other hand, are made up of amino acids plus, in many cases, non-peptidic cofactors that are required for enzyme action. Primary metabolites are also found in the basic structure of cells and organisms.

Secondary metabolites

Secondary metabolites serve a variety of purposes. Pheromones, which act as social signaling molecules between members of the same species, communication molecules that attract and activate symbiotic organisms, agents that solubilize and transport nutrients, and competitive weapons used against competitors, prey, and predators are just a few examples. The function of many more secondary metabolites remains unknown. One theory is that they give the organism that makes them a competitive advantage. Another viewpoint is that, like the immune system, secondary metabolites have no specified role; yet, having the equipment in place to synthesise these diverse chemical structures is critical, thus only a few secondary metabolites are produced and chosen. Alkaloids, phenylpropanoids, polyketides, and terpenoids are all structural classes of secondary metabolites.

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