

Title (9)	:	General Characteristics of Endophytes and Bioprospecting Potential of Endophytic Fungi
Journal	:	Advancements in Materials Science and Technology Led by Women
Document Type	:	Book Chapter
Publisher	:	Springer
UniKL Author	:	Md Abu Taher, Woei-Yenn Tong, Chean Ring Leong, Syarifah Ab Rashid
Link to Full Text	:	https://link.springer.com/book/10.1007/978-3-031-21959-7
Link to Scopus Preview	:	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85153081115&doi=10.1007%2f978-3-031-21959-7_4&partnerID=40&md5=07b4aaac5efd77975f115c06415113cc
Abstract	:	<p>Endophytes are a group of microorganisms including fungi, actinomycetes, and bacteria that reside within plant tissues without causing apparent disease symptoms in host plants. These underexplored microorganisms are drawing attention as attractive sources of new compounds, due to their genetic diversity leading to structurally diverse secondary metabolites. In this regard, a balanced host–endophyte interaction plays a vital role in facilitating the endophytes to produce bioactive compounds along with mimicry of plant-based metabolites. Endophytic fungi are great resources of naturally derived drugs as they produce various groups of bioactive molecules including alkaloids, flavonoids, peptides, phenolics, quinines, steroids, and terpenoids. These compounds have been found to display broad-spectrum biological activities such as antimicrobial, antidiabetic, anticancer, anti-inflammatory, antioxidant, and immunomodulatory. In this review, endophytes, their interactions with host plants are discussed and their mechanism of non-pathogenicity are also highlighted. The review also focuses on the therapeutic applications of metabolites derived from plant-associated endophytic fungi. It can be concluded that endophytes are the repository of bioactive metabolites. Therefore, more studies should be conducted on bioprospecting novel compounds from these potential resources.</p>