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Secondary metabolites of endophytic fungi from *Morus* plant

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Endophytic fungi are defined as fungi that reside in the tissues of living plants, and are promising source of bioactive compounds including anticancer, anti-inflammatory, neuroprotective and antioxidant. *Morus* plants, or locally known as “murbei”, have been widely cultivated for feeding silkworm in silk industry in many countries and widely known can be used as a traditional drug. Phytochemistry study showed that these plants produced phenolic compounds mainly stilbenes, 2-arylbenzofurans, and flavonoids. Three endophytic fungi, *Talaromyces wortmanii*, *Xylaria* sp, and one unidentified endophytic fungi were isolated from *Morus cathayana* and *Morus macroura*. Wortmannin and skyrin are two known compounds that are successfully isolated from *Talaromyces wortmanii*, while, 19,20-epoxycytochalasin Q, 18-deoxy-19,20-epoxycytochalasin Q, 19,20-epoxycytochalasin C were isolated from *Xylaria* sp. On the other hand, three new compounds also have been isolated from unidentified fungi, namely two arthrone derivatives and a presilphiperfoliane sesquiterpene. Cytotoxic evaluation of these compounds showed that 19,20-epoxycytochalasin Q exhibited the most active cytotoxicity with $IC_{50} < 0.1 \mu\text{g/mL}$ against murine leukemia P-388. It showed that endophytic fungi are microorganisms that can be an alternative source of bioactive secondary metabolites.

Biography

Elvira Hermawati has received her master degree in chemistry (2011) from Chemistry Department, Institut Teknologi Bandung. Her research is about isolation of medicinal plants and their activities. She joined Natural Product Research Group of Institut Teknologi Bandung. Now, she is still carrying out doctoral program in Institut Teknologi Bandung and currently working with isolation of secondary metabolites from endophytic fungi.

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