



INTISARI

Acacia spp. telah diintroduksi di berbagai wilayah Indonesia untuk penghijauan sekaligus peningkatan ekonomi. Sebagai bagian dari Leguminosae, akasia bersimbiosis dengan bakteri pengikat nitrogen. Hal ini dapat meningkatkan kandungan nitrogen bagi akasia untuk menghasilkan metabolit, salah satunya yaitu alkaloid. Berbagai alkaloid telah diekstraksi serta disintesis karena aktivitas biologinya yang beragam, seperti antikanker, antiinflamasi, antimikroba, dan lain-lain. Penelitian ini bertujuan untuk mengkaji senyawa alkaloid dalam genus *Acacia* beserta aktivitas biologinya.

Penelitian ini disajikan dalam bentuk *narrative review*. Artikel diperoleh dari *database* Scopus, ScienceDirect, PubMed, dan Google Scholar. Tahap seleksi dilakukan dari pembatasan kata kunci pencarian, skrining judul dan abstrak, skrining keseluruhan artikel berdasarkan kriteria inklusi dan eksklusi, hingga skrining duplikasi. Artikel yang memenuhi syarat dikompilasikan datanya untuk disusun dalam bentuk narasi.

Sebanyak 26 artikel berhasil diperoleh. Seluruh artikel menunjukkan bahwa akasia yang diteliti menghasilkan alkaloid, baik protoalkaloid maupun alkaloid heterosiklik. Aktivitas biologi senyawa alkaloid dalam akasia bergantung pada struktur tiap senyawa. Secara garis besar, aktivitas alkaloid dalam akasia mempengaruhi sistem saraf pusat dan perkembangan sel kanker.

Kata kunci: akasia, alkaloid, aktivitas biologi

ABSTRACT

Acacia genera consisted of fast-growing woody plants which have been introduced to various region of Indonesia for reforestation program and for economical purposes. As a member of Leguminosae family, *Acacia* spp. has an ability to make symbiotic relationship with nitrogen-fixing bacteria. This symbiosis gives advantage to the host tree, as it enhances the nitrogen in the plant tissue, allowing the formation of secondary metabolites. One of them is alkaloid, which contain nitrogen in its structure. Many alkaloids have been extracted and artificially synthesized because of its biological activity such as anticancer, antimicrobial, antiinflammation, etc. The purpose of this research is to review the alkaloids produced by *Acacia* spp. and their biological activity.

The output of the research is a narrative review. Articles were obtained from several databases, which are Scopus, ScienceDirect, PubMed, and Google Scholar. There were keywords to look for the articles in the databases. Articles were screened for its abstract and title. Full-text screening were also done based on the inclusion and exclusion criteria. The secondary data in articles which fulfilled the criteria were reviewed.

There were 26 articles obtained from databases. All articles reveal that the studied *Acacia* spp. produce alkaloid, including simple alkaloids and heterocyclic alkaloids. The biological activity of the alkaloids in acacia depends on the structure of each compound. Most of the alkaloids found in acacia has biological activity in central nervous system and cancer cell development.

Keyword: *Acacia* spp., alkaloid, biological activity.