Isolasi dan penentuan struktur serta uji aktivitas biologi senyawa kimia dari fraksi aseton talus lichen ramalina javanica Nyl

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Abstrak

Lichen is a unique plant, because it is composed of two completely different organisms, algae and fungal. Lichen as metabolites secondary resources and have a biological activities. The aim of this research, is isolation and structur elucidation as well as biological activity test of acetone extract from thattus lichen Ramalina javanica Nyl. Extraction was done with maceraticn methods by using n-hexane and than acetone as solvent From acetone extract wasdone isolation over chromatographic coloumn with a solvent gradient n-hexane/ethyl acetate and followed by thin layer chromatograpic (TLC) preparative. Isolated compounds, then, was tested for their purity by TLC and melting point measurement. The structure etucidation was done by means spectroscopical and comparison data. From this work can be obtained 7 compounds, compound (1) is vicanicin, a known compound; compound (2) is diétit - 3- metoksi glulafal. as new new natural products compound; compound (3) is etii - 23 - metoksi trieicosancat. proposed as a new naturat produts compound; compound (4) is parietine, a known compound; compound (5) is 6-0 metil averantin; compound (6) is ursolic acid, a known compound; compound (7) is 3-dechloro-4-0-methyl diploicine, a known compound; From the compound content in the acetone extract of thallus R. javanica Nyl, showed that this species had chemistry family coretlation with: Xanthoria parietina (L.) Th.Fr., Taioschrstes flavicans (Sw.) Nonn., Diploicia mnesoens (Dicks.) Massal., Evemia prunastri (L.) Ach., Flavocetraria nivaiis (L.) Kamet et Thell. and Solorina crocea (L) Ach. The biological activity test of acetone extract, vicanicin and parietine to Artemia satina Leach larve, showed that acetone extract, vicanicin and parietine have a potential biological activity with LC50 = 4.23: 2.24 and 44.39 μg/mL. whereas a anticancer test of acetone extract, vicanicin and parietine to leukemia cancer cell L 1210 gives IC50 = 23.64; 1925 and 16.74 μg/mL. <hr>Telah dilakukan isolasi , penentuan struktur serta uji aktivitas biologi senyawa kimia dan fraksi aseton talus lichen Ramafina javanica Nyl. Tumbuhan lichen dipilih sebagai bahan peneIitian karena lichen merupakan tanaman suku rendah yang unik, merupakan salah satu sumber metabolit sekunder yang berkhasiat obat dan di Indonesia belum banyak diteliti. Sementara itu penyakit kanker masih merupakan masalah kesehatan dunia. Dari penelitian ini diharapkan dapat menambah khazanah ilmu pengetahuan, memanfaatkan lichen R. Javanica Nyl. serta potensi aktiviias biologi senyawa yang dikandungnya. Ekstraksi terhadap talus lichen R. javanfca Nyi. dilakukan dengan cara maserasi, dalam pelarut pelaksana, kemudian dilanjutkan dengan pelarut aseton. lsolasi senyawa dari ekstrak aseton dilakukan dengan ce kremalografi kolom (KK) gradien pelarut-heksana/etil asetat dan kromatografi lapis tipis (KLT) prepatatif secata berulang dan diperoleh 7 senyawa, yaitu vikanisin, senyawa (1): dietil - 3 - metoksi glularat, senyawa (2) dan diusulkan sebagai senyawa bahan alam baru; etil - 23- metoksi treicosanat, senyawa (3) yang diusulkan sebagai senyawa bahan alam baru; parietin, senyawa (4); 6-O-melil averantin, senyawa (5); asam ursolat, senyawa (6); dan 3-dekloro-4-O-metil diploisin; senyawa (7); Lichen Fi. javanica Nyl. masih mempunyai huhungan kerabat secara kimia dengan lichen spesies Xanihoria parietina (L.) Th. Fr., Tefoschistes Havicans (Sw) Nunn., Dipioicia canescens (Dicks) Massal., Evernia prunasin (L.)Ach., Fiavoceiraria nivalis

(L.) Kamef. et TheIl dan Solorina crocea (L) Ach. Uji aktivitas biologi ekstrak aseton, vikanisin dan parietin terhadap benur/larva udang Atermia salina Leach menghasilkan LC50 = 4,23; 2,24 dan 44,39 μg/mL. Uji aktivitas antikanker ekstrak aseton, vikanisin dan parietin terhadap sel leukemia L 1210 menghasilkan IC50 = 23,64; 19,25 dan 16,74 μg/mL.