FINAL REPORT

Bioactive compounds from *Artocarpus elasticus*

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ABSTRACT

Investigation of the chemical constituents from the stem bark, root bark and leaves of *Artocarpus elasticus* with the aim of searching for antimicrobial compounds and cytotoxic compounds as well as finding the new compounds resulted in the isolation of ten compounds (AE1- AE10) from the stem bark, nine compounds (PK1-PK9) from the root bark and six compounds (PL1-PL6) from the leaves. Compounds AE3, AE7, PL1, PL 2, PL3, PL5, PL6 are new compounds. PK3, PK8 and PK9 are the same compounds as AE8, AE10 and AE6, respectively. Their structures were established based on spectroscopic evidence and comparison to the related compounds. The crude extracts of the stem bark, AE1, AE10, PK9, PL1, PL2, PL4, PL5 and PL6 showed antibacterial activity against *S. aureus* ATCC25923, and MRSA SK1 with MIC 4-128 μg/ml. The crude extracts of root bark, AE4, AE8, PK2, PK5, PK6, PK7 and PL3 showed no activity at 200 μg/ml. The crude extracts of the stem bark, root bark, leaves, AE1, AE4, AE8, AE10, AE12, AE13 and AE14 could not inhibit the growth of *Giardia intestinalis* and *Entamoeba histolytica*. Compound AE1 effected to the growth of cell lines D17 (Bone cancer), COLO 205 (colon cancer) and A431. The crude extracts of the stem bark, root bark, leaves, AE3, AE5, AE4, AE7, AE8, AE10, PK2, PK4 and PK5 showed no activity at 30 μg/ml. Compound AE1 is the most effective compound to inhibit the growth of *S. aureus* (MIC 4 μg/ml) and MRSA SK1 (MIC 8 μg/ml), and to cell lines D17 (Bone cancer) (IC_{50} 12.68, μg/ml), COLO 205 (colon cancer) (IC_{50} 12.63, μg/ml), and A431 (IC_{50} 7.61 μg/ml).