ABSTRACT

ANTICANCER ACTIVITY OF TERPENOID COMPOUNDS FROM JAMUR DEWA (*Agaricus blazei* Murill) ON MCF-7 CELLS WITH APOPTOSIS INDUCTION WORK MECHANISM

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The extract of jamur dewa has previously been reported to have anticancer activity in vitro on Hela cells IC_{50} 194.4 µg/ ml, leukemia cells U937, MOLT4, HL60, and K562 IC_{50} 2.7; 9.4; 13.0; and 16.0 g/ml, lung cells IC_{50} 200 g/ml. This study aims to identify the active compound n-hexane of the jamur dewa. Materials and Methods: Isolation of the active compound from the n-hexane extract of jamur dewa was carried out by chromatographic method, and the chemical structure of the isolated compound was determined based on NMR and MS spectra data. MCF-7 cell anticancer assay was determined by the MTT method. The apoptosis induction mechanism is carried out by fluocytometry. Results: A terpenoid compound was isolated from the jamur dewa and identified as ergosterol ([(3β)-Ergosta-5,7,22-trien-3-ol]). MCF-7 cell anticancer activity test showed that these compounds could inhibit MCF-7 cells with an IC_{50} value of 43.12 µg / mL. The mechanism of action test showed that it can induce apoptosis and cell cycle inhibition.

Key Word: *Terpenoid, Agaricus blazei Murill, MCF-7, Anticancer*