

PHENOLIC CONTENT AND CYTOTOXIC PROPERTIES OF FERMENTED BLACK SOYBEANS (*GLICINE SOJA*) EXTRACT ON HUMAN HELA-S3 AND RAJI CELL LINES

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ABSTRACT: The purpose of this research are to determine total phenolic and flavonoids content from fermented black soybeans (*Glycine soja*) on various times (0; 2; 4; 6; and 8 days) by the micelium of *Rhizopus oligosporus*, the cytotoxic activity test on human cancer such as Hela S3 and Raji cell lines, and isolated the phenolic compounds from fermented black soybean. Total phenolics and flavonoids from some methanol extracts were determined by spectroscopy. The isolation of this compound was carried out by chromatographic method, whereas structure elucidation was performed by interpretation of spectroscopic data, including UV, IR, ¹H and ¹³C NMR. The research showed that the highest content of total phenolic and flavonoids were found in 6 days fermented black soybean, which also displayed the highest cytotoxic activity against Hela S3 and Raji cell lines. Isolation and structure elucidation of phenolic compounds from fermented black soybean had also been done. From methanol extract of 4 days fermented black soybean, we isolated three known compound namely p-hydroxybenzoat (1), genestein (2), and genestein glycoside (3).

Key words: Black soybeans; Glycine soja; total phenolic; human cell lines