An Extract of Zingiber officinale and Piper retrofractum Combination and Its Effect to Cancer Cell Line

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Abstract	Chemotherapy may emerge side-effect since it may treat inconveniently the synthesis of nucleic acids and proteins, both cancer cells or normal cells. Plants as a cancer therapy were expected to reduce this toxicity and side effects. Plants which used empirically for cancer therapy was Zingiber officinale cv. Rubrum and Piper retrofractum. This study was conducted to examine the cytotoxic activity of ethanolic extract combination of two plants in HeLa and T47D cell lines. Zingiber officinale cv. Rubrum, Piper retrofractum and mixture (1:1) powdered then macerated with 96% ethanol for 3 x 24 hours. Identification of the constituent that had potential anticancer effect was used TLC with silica GF 254 as stationary phase, cytotoxic activity was examined by yellow MTT assay, then analyzed using probit. Apoptotic assay was performed by immunofluororescence method, using fluorochromes ethidium bromide and acridine orange. The result showed that Zingiber officinale cv. Rubrum contains terpenoids, while Piper retrofractum contains alkaloids substance. The mixture showed cytotoxic activity against HeLa and T47D cell with IC50 33 andÃƒÂ‚Ã‚Â 53 ÃƒÂ‚Ã‚Âµg/mL respectively. The extract caused cytotoxic effect through apoptotic mechanism.Keywords : Zingiber officinale cv. Rubrum, Piper retrofractum, cytotoxic, HeLa cells, T47D cells
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