



Inhibitory Activity of Indonesian Soybean in comparison with Soybean Meal on Goblet Cell Count and Micro Vessel Density in Colitis-Associated Mouse Colon Carcinogenesis

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Abstract : Colon cancer is a major public health problem throughout the worldwide. Recently, many studies have focused on finding chemoprevention based on the natural compound. The present study was aimed to investigate the inhibitory activity of Indonesian soybean in comparison with soybean meal extract in colitis-associated mouse colon carcinogenesis.

Methods: In this study, Swiss Webster mice were induced by azoxymethane 10 mg/kg body weight followed by administration of 2% dextran sodium sulfate during a week. Soybean, soybean meal extract at each dose of 75, 150, and 200 mg daily and aspirin 0,39 mg/kg body weight daily (equivalent to 150 mg for a 70 kg human) administered orally. Histopathological examination of the colon tissue (hematoxylin-eosin staining) was done by counting the number of goblet cells and micro vessel density in ten randomly selected fields visual.

The results: Soybean and soybean meal significantly reduced the count of goblet cell ($P < 0,05$) in colitis-associated colon carcinogenesis mice. Soybean extract is also significantly reduced the number of micro vessel density ($P < 0,001$) in colitis-associated colon carcinogenesis mice. Otherwise, there were no significant effects of the soybean meal extract on the number of micro vessel density in colitis-associated colon carcinogenesis mice.

Conclusion: Our results indicate that Indonesian soybean and soybean meal extract may have inhibitory activity in colitis-associated colon carcinogenesis through inhibiting reduction in the number of goblet cell and micro vessel density. Indonesian soybean may have Inhibitory activity better than soybean meal.

Keywords : Colitis-associated colon carcinogenesis, soybean, soybean meal, lunasin, Azoxymethane, Dextran Sodium Sulfate.

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