International Journal of ChemTech Research
CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.1 pp39-46,2017

The Effect of Soybean and Soybean Meal Extract on COX-2 andiNOSExpressionin Colon Preneoplasia of Mice Induced by Azoxymethane and Dextran Sodium Sulfate

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Abstract: Several studies shows an increase in colon cancer case which is triggered by lifestyle changes in society such as smoking, obesity, high-fat diet, consumption of burned foodand lack of fiberconsumption. This study objective is to evaluate the inhibition activities of soybean seed extract and soybean meal extract on COX-2and iNOSexpressions in colonpreneoplasia of mice induced by azoxymethaneand dextran sodium sulfate.Swiss Webster mice are injected intraperitoneally by single dose of 10 mg/kgBWazoxymethane and after 7 days followed by administration of 2% dextran sodium sulfatein their drinking for a week. Both extracts are administered orallyin threedifferent doses(75 mg / 20 gBW, 150 mg / 20 gBW and 200 mg / 20 gBW) daily for 4 weeks. Immunohistochemical examination is conducted to see the cells with the expression of COX 2 and iNOSin every 1000 epithelial cells.The result shows both the extracts decreases the expression of COX-2 at dose 150 mg / 20 g body weight and 200 mg / 20 g BW significantly with $P < 0.05$. TheiNOSexpressionis decreased significantly only by the soybean meal extract at dose 150 mg/20 g BW.The Examination of the extract showseach seed extract and soybean meal containing active compound lunasin 0.623 mg / g extract and 0.823 mg / g extract.

Key words : Soybean, soybean meal, azoxymethane, dextran sodium sulfate, COX-2, iNOS.

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