**Tambahan FULL ABSTRACT UNTUK PAGE NATIONAL JOURNALS**

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1. Judiono. 2012. The Effects of Oral Plain Kefir Supplementation on Proinflamatory Cytokine Properties of the Hyperglycemia Wistar Rats Induced by STZ. Acta Medica Indonesiana. The Indonesian Journal of Internal Medicine. Vol. 33, No.2 April – Juni.

**FULL ABSTRACT**

The Effects of Oral Plain Kefir Supplementation on Proinflammatory Cytokine Properties of the Hyperglycemia Wistar Rats Induced by Streptozotocin

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Objective: to validate the effect of plain kefir to immune response in streptozotocin induced hyperglycemia rats.

Method: the experiment was using random design methodology to the pretest – posttest control group of male and female in streptozotocin (STZ) induced hyperglycemia Wistar rats. Sample were divided randomly into four groups (1) insulin treated 0.76 UI/200 g body weight, (2) plain kefir 3.6 cc per day during 30 days, (3) positive control induced by STZ, (4) negative control normal group. Blood level were measured based on the full blood measurement from vena retroorbilitas 0.1 ml with microhematokrit in the first day (pre-test) dan 30th day (posttest) with enzymatic methodology. Immune response sitokin (IL1, IL6, IL10, TNFa) were measured with ELISA. Data were managed with One Way Anova, Mann Whitney and Duncan in a significant level at (p < 0.05).

Result: Kefir supplementation 3.6 cc per day had significantly effect on blood glucose sitokin proinflamasi (IL1, IL6, TNFa) and sitokin antiinflamasi (IL10). Statistical analysis showed glucose reduction -111, 00 + 44,23 ml (p<0,001) and sitokin proinflamasi IL1around -18,62 + 23,59 and IL6 -3,21 + 7,57 mU/mL (p<0,001) compare to control group. Though not significant, level of TNFa decreased 1,65 + 4,62 mU/mL, except control group.

Conclusion: Kefir supplementation significantly reduced blood glucose, level of sitokin (IL1, IL6) and decreased level of TNF-a, while level of IL10 increased if compare to control group.

Keywords: Probiotic, kefir, diabetes mellitus, hyperglicemia, streptozotocin, free radical, sitokin proinflamasi

1. Lestari, LA; Marsetyawan Soesatyo, MHNE; Iravati, S; Harmayani, E. 2012. Peningkatan Aktivitas Fagositosis dan Produksi Nitrit Oksida pada Makrofag Peritoneal Tikus Sprague Dawley yang diberi Lactobacillus Olantarum Mut7 dan Ekstrak Serat Ubi Jalar. Jurnal Gizi Klinik Indonesia, Vol.9 No.2.

**FULL ABSTRACT**

Enhancement of phagocytic activity and nitric oxide production of peritoneal macrophage of Sprague Dawley rats fed with Lactobacillus plantarum Mut7 and sweet potato fiber

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Background: Macrophages play an important role as part of the innate immune response in the gut and they represent one of the first lines of nonspecific defense against bacterial invasion. Previous studies indicated that probiotics and prebiotics may act as an immunomodulator agents. Nevertheless, research on the immunomodulatory effect of local materials has never been performed.

Objective: To study the effects of Lactobacillus plantarum Mut7 and sweet potato fiber on the activity and Nitric Oxide (NO) production of peritoneal macrophages of Sprague Dawley rats.

Method: Ninety six Sprague Dawley rats aged 8 weeks were divided into two groups; A (not infected with Salmonella typhimurium) and B (infected with S. typhimurium). Each group was divided into 4 subgroups and assigned to standard AIN-93M diet (KON), 109 CFU/ml of L. plantarum Mut7 (PRO), modified AIN-93M diet with sweet potato fiber (PRE), and both component (SIN). After 3 weeks of treatment, 6 rats of each subgroup were sacrificed and the peritoneal macrophages were isolated and analyzed for its activity and NO production. The rest of the rats continued the treatments for another 2 weeks. At the end of the experiment, they were sacrificed and the peritoneal macrophage were isolated and analyzed for its activity and NO production.

Results: Oral administration of L. plantarum Mut7, sweet potato fiber, or both improve phagocytic activity of peritoneal macrophage which was indicated by an increase in the percentage of macrophages that phagocyte latex particles (p<0.05) and an increase in the number of latex particles engulfed by macrophages either after 3 or 5 weeks of treatment (p<0.05). Oral administration of L. plantarum Mut7, sweet potato fiber, or both were unable to increase the nitric oxide production after 3 weeks of treatment (p>0.05), but after 5 weeks of treatment the production of NO was significantly increased (p<0.05).

Conclusion: L. plantarum Mut7, sweet potato fiber, or both increase the non-specific immune response as they could improve the activity and NO production of peritoneal macrophages.

Keywords: L. plantarum Mut7, sweet potato fiber, peritoneal macrophage, nitric oxide

1. Nurrahman; Astuti, M; Suparmo; Soesatyo, MHNE. 2012. The Mold Growth, Organoleptic Properties and Antioxidant Activities of Black Soybean Tempe Fermented by Different Inoculums. Agritech, Vol. 32 No. 1.

**FULL ABSTRACT**

The Mold Growth, Organoleptic Properties and Antioxidant Activities of Black Soybean Tempe Fermented By Different Inoculums

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The quality of tempe is influenced by raw materials, processing and type of inoculum used. Black soybeans can be used as raw material for making tempe that has quality like tempe made from yellow soybeans. This study aims to determine the effect of inoculum type and duration of incubation on the mold growth, organoleptic properties and antioxidant activity of black soybean tempe. This study uses mallika black soybean varieties as raw material for making tempe. Black soybeans that have been discarded skin, soaked and steamed, then mixed with inoculum derived from pure cultures of Rhizopus stolonifer, R. oligosporus and R. oryzae. After it was incubated for 24, 30,

36 and 42 hours at a temperature 25 – 27oC. The parameters were used mold growth, organoleptic properties and antioxidant activity of black soybean tempe. Results showed the treatment inoculum type and duration of incubation, effect on mold growth, organoleptic properties and antioxidant activity. Mold growth increased up to 36-hour long incubation, then decreased. Panelists gave the highest value in tempe that were incubated for 36 hours. There are a tendency long incubation tempe increased antioxidant activity. The conclusion of this research has the characteristics of Rhizopus stolonifer relatively highest mold growth, organoleptic properties and antioxidant activity that compared to other types of mold at the old 30-hour incubation.

Keywords: tempe, black soybean and Rhizopus sp.