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### Efek Hepatoprotektor Ekstrak Tempe Kedelai pada Mencit (*Mus musculus*) yang Diinduksi Parasetamol

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#### Abstract


**Background:** Soybean tempeh is known to contain various kinds of antioxidants such as vitamin C, vitamin E, vitamin B2, saponins, isoflavones, phytic acid, lecithin, iron, and phytosterol. Antioxidants are thought to be hepatoprotective. The objective of this research is to know the influence of soybean tempeh extract to the liver histological damage of mice (*Mus musculus*) and the increase of soybean tempeh extract dose can also increase protection effect to the liver histological damage of mice (*Mus musculus*) which is induced by paracetamol.

**Methods:** This was laboratory experimental research with *the post test only controlled group design*. Samples were 32 male mice, *Swiss webster* type, 2-3 months old age and  $\pm 20$  g of each weight. Samples were divided into 4 groups of 8 mice each. Sampling technique used in this research was *incidental sampling*. Mice for control group (K) and P1 group will be given aquadest for 14 days in a row. The P2 and P3 group will be given soybean tempeh extracts dose for 14 days in a row. Soybean tempeh extracts dose in each group was 2.2 mg/20 g weight of mice and 4.4 mg/20 g weight of mice. Paracetamol will be given to P1, P2, and P3, with dose 5 mg/20g weight of mice on the 12<sup>th</sup> to 14<sup>th</sup> days. On the 15<sup>th</sup> day, hepar of mice was taken and stained with Hematoxylin Eosin (HE) for histopathological study. The hepar cells of mice were observed microscopically by counting the number of necrosis cells on the centrolobuler zone. The data were analyzed by Oneway ANOVA test and Post Hoc test ( $\alpha=0.05$ ).

**Results:** The average damage of hepar cells in the K, P1, P2, P3 were  $20.75 \pm 1.58$ ;  $85.00 \pm 2.98$ ;  $43.75 \pm 2.92$ ;  $31.00 \pm 2.00$  consecutively. The results of Oneway ANOVA test showed a significant difference in all group ( $p < 0.05$ ). The results of Post Hoc test showed significant differences between K – P1, K – P2, K – P3, P1 – P2, P1 – P3, and P2 – P3 with  $p < 0.05$ .

**Conclusion:** The soybean tempeh extracts can prevent the histological damage of the hepar cells of mice (*Mus musculus*) and the increase of soybean tempeh extracts dose followed by the increase of protection effect to the liver cell damaging of mice which is induced by paracetamol.

**Key words:** soybean tempeh extract, paracetamol, liver histological damaging.

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