

# THE EFFECT OF PROBIOTIC ON THE HISTOPATOLOGY STRUCTURE OF SKIN IN MICE (*MUS MUSCULUS*) INDUCED BY OVALBUMIN

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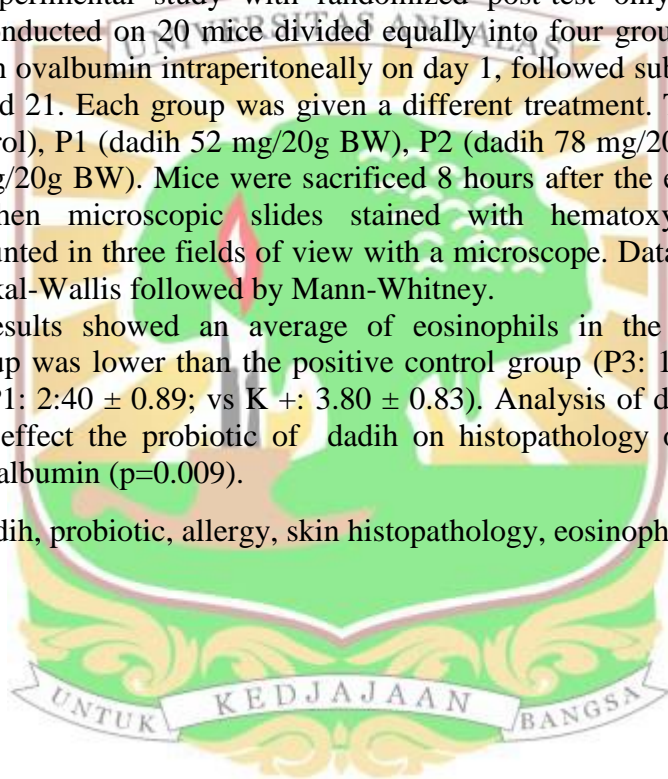
## ABSTRACT

Dadih is a traditional food of West Sumatra that contain probiotic. Probiotic have the ability to modulate the immune system, including inhibit the allergy reaction. The aim of this study was to examine effect the probiotic of dadih on histopathology of skin in mice induced ovalbumin by observing the number of eosinophils in the tissue.

An experimental study with randomized post-test only control group design was conducted on 20 mice divided equally into four groups. Mice were sensitized with ovalbumin intraperitoneally on day 1, followed subcutaneously on days 7, 14, and 21. Each group was given a different treatment. There were K + (positive control), P1 (dadih 52 mg/20g BW), P2 (dadih 78 mg/20g BW), and P3 (dadih 104 mg/20g BW). Mice were sacrificed 8 hours after the end of exposure ovalbumin, then microscopic slides stained with hematoxylin-eosin. The eosinophil counted in three fields of view with a microscope. Data were analyzed with the Kruskal-Wallis followed by Mann-Whitney.

The results showed an average of eosinophils in the skin tissue of treatment group was lower than the positive control group (P3:  $1:40 \pm 0:54$ ; P2:  $1:80 \pm 0:83$ ; P1:  $2:40 \pm 0:89$ ; vs K +:  $3:80 \pm 0:83$ ). Analysis of data showed that there was an effect the probiotic of dadih on histopathology of skin in mice induced by ovalbumin ( $p=0.009$ ).

Keywords: dadih, probiotic, allergy, skin histopathology, eosinophil, ovalbumin



# PENGARUH PROBIOTIK DADIH TERHADAP GAMBARAN HISTOPATOLOGI KULIT MENCIT (*Mus Musculus*) YANG DIINDUKSI OVALBUMIN

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## ABSTRAK

Dadih merupakan salah satu makanan tradisional khas Sumatera Barat yang mengandung probiotik. Probiotik memiliki kemampuan memodulasi sistem imun, salah satunya yaitu menghambat terjadinya alergi. Penelitian ini bertujuan untuk mengetahui pengaruh dadih terhadap gambaran histopatologi kulit pada mencit yang diinduksi ovalbumin dengan mengamati jumlah sel eosinofil pada jaringan.

Penelitian *randomized post-test only control group design* dilakukan pada 20 ekor mencit yang dibagi menjadi empat kelompok. Mencit disensitisasi dengan ovalbumin intraperitoneal pada hari ke-1, dilanjutkan secara subkutan pada hari ke 7, 14, dan 21. Masing-masing kelompok diberikan perlakuan berbeda, yaitu K+ (kontrol positif), P1 (dadih 52 mg/20g BB), P2 (dadih 78 mg/20g BB), dan P3 (dadih 104 mg/20g BB). Mencit dikorbankan 8 jam setelah akhir pemaparan ovalbumin, kemudian dibuat slide dengan pewarnaan hemaktosilin-eosin. Jumlah eosinofil dihitung dalam tiga lapangan pandang dengan mikroskop. Data dianalisis dengan Kruskal-Wallis dan diikuti dengan Mann-Whitney.

Hasil penelitian menunjukkan rata-rata eosinofil di jaringan kulit kelompok perlakuan lebih rendah dibandingkan dengan kontrol positif (P3:  $1.40 \pm 0.54$ ; P2:  $1.80 \pm 0.83$ ; P1:  $2.40 \pm 0.89$ ; vs. K+:  $3.80 \pm 0.83$ ). Hasil analisis data menunjukkan bahwa terdapat pengaruh dadih terhadap gambaran histopatologi kulit mencit yang diinduksi ovalbumin ( $p=0.009$ ).

Kata kunci: dadih, probiotik, alergi, histopatologi kulit, eosinofil, ovalbumin

