

## Pengaruh Produk Susu Fermentasi Probiotik *Lactobacillus casei* Strain AP terhadap Kadar Glukosa dan Profil Lipid Darah Individu Obese

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### INTISARI

*Lactobacillus casei* (*L. casei*) AP merupakan probiotik strain lokal asal Indonesia, digunakan sebagai produk susu fermentasi kesehatan dan produk pangan fungsional. Penelitian yang telah dilakukan pada Tikus *Sprague Dawley* menunjukkan bahwa pemanfaatan susu probiotik *L. casei* AP dapat menurunkan hiperglikemia dan kolesterol. Penelitian lanjutan tentang manfaat susu probiotik *L. casei* AP pada manusia belum pernah dilakukan, maka penelitian ini dilakukan dengan tujuan untuk mengetahui pengaruh pemberian produk susu fermentasi probiotik lokal *L. casei* AP terhadap penurunan kadar glukosa dan memperbaiki profil lipid darah individu obese. Pengukuran kadar glukosa darah puasa, kolesterol total, LDL, HDL, dan Trigliserida menggunakan Diasys kits dan pengujian kadar MCP-1 menggunakan ELISA (Fine Test Kits). Hasil pemberian produk susu fermentasi *L. casei* AP diketahui menurunkan kadar glukosa darah puasa dan kadar MCP-1 tidak signifikan ( $P > 0.05$ ). Pemberian produk susu fermentasi *L. casei* AP terhadap profil lipid mampu menurunkan kadar kolesterol total, LDL, dan Trigliserida secara signifikan ( $P < 0.05$ ), sedangkan pada kadar HDL peningkatannya tidak signifikan ( $P > 0.05$ ). Kesimpulan dari penelitian ini adalah produk susu fermentasi *L. casei* AP tidak menurunkan secara signifikan kadar glukosa darah puasa dan kadar MCP-1, namun dapat memperbaiki profil lipid darah individu obese.

**Kata Kunci :** Obese, Susu Fermentasi AP, Glukosa Darah Puasa, Profil Lipid.

**The Effect of Fermented-Milk Containing Probiotic *Lactobacillus casei* Strain AP on the Concentration of Blood Glucose, and Lipid Profiles in Obese People**

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**ABSTRACT**

Healthy fermented-milk products may be developed from *Lactobacillus casei* (*L. casei*) AP, a local probiotic strain from Indonesia. In Sprague Dawley rats, the utilization of human-origin local probiotic strains from Indonesia—namely, *L. casei* AP—in fermented dairy products can reduce hyperglycemia and cholesterol. Since this strain has never been tested on humans, our study aims to examine the effect of *L. casei* AP local probiotic fermented-milk products on the concentrations of the blood glucose and lipid profiles in obese people. We administered *L. casei* AP fermented-milk products to our obese subjects and measured their concentrations of fasting blood glucose, total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), and triglycerides using diagnostic systems kits. We then tested their MCP-1 concentrations with ELISA. *L. casei* AP fermented-milk products decreased MCP-1 concentrations and reduced fasting blood glucose to a non significant concentration ( $p>0.05$ ). The administration of *L. casei* AP fermented-milk products to lipid profiles significantly reduced total cholesterol, LDL cholesterol, and triglyceride concentrations ( $p<0.05$ ), while the increase in HDL concentration was not significant ( $p>0.05$ ). *L. casei* AP probiotic fermented-milk can reduce the concentrations fasting blood glucose, MCP-1 was not significant but can improve lipid profiles in obese people.

**Key Words:** obese, fermented-milk, fasting blood glucose, lipid profile