

ABSTRAK

Dali ni horbo merupakan produk fermentasi susu kerbau tradisional yang berpotensi mengandung senyawa bioaktif, khususnya protein dan peptida, yang diduga memiliki aktivitas antibakteri. Penelitian ini bertujuan untuk menguji aktivitas antibakteri dan antijamur ekstrak protein dali ni horbo secara *in vitro*. Ekstrak yang digunakan berupa protein kasar tanpa proses fraksinasi atau hidrolisis lanjutan, dengan pengujian menggunakan metode difusi cakram dan metode sumur terhadap bakteri Gram-positif, bakteri Gram-negatif, serta *Candida albicans*. Hasil penelitian menunjukkan bahwa ekstrak protein dali ni horbo tidak menghasilkan zona hambat pada seluruh mikroorganisme uji. Lemahnya aktivitas antimikroba diduga berkaitan dengan ukuran molekul protein yang besar sehingga memiliki daya difusi rendah dalam media agar serta belum terbentuknya peptida bioaktif bermolekul kecil. Penambahan ekstrak nenas dan jeruk serta penggunaan lisozim dan protease sebagai kontrol positif juga tidak menunjukkan efek penghambatan. Dengan demikian, ekstrak protein dali ni horbo dalam bentuk protein kasar belum berpotensi sebagai agen antibakteri maupun antijamur. Penelitian lanjutan dengan pemurnian protein dan metode uji alternatif seperti *Minimum Inhibitory Concentration* (MIC) diperlukan untuk mengevaluasi potensi antimikroba secara lebih akurat.

Kata kunci: antibakteri, antijamur, dali ni horbo, ekstrak protein, fermentasi susu

ABSTRACT

Dali ni horbo is a traditional fermented buffalo milk product that potentially contains bioactive compounds, particularly proteins and peptides, which are presumed to exhibit antibacterial activity. This study aimed to evaluate the in vitro antibacterial and antifungal activities of *dali ni horbo* protein extract. The extract used was a crude protein extract without further fractionation or hydrolysis, and the antimicrobial activity was assessed using the disc diffusion and well diffusion methods against Gram-positive bacteria, Gram-negative bacteria, and *Candida albicans*. The results showed that the *dali ni horbo* protein extract did not produce any inhibition zones against all tested microorganisms. The weak antimicrobial activity is presumably related to the large molecular size of the proteins, resulting in low diffusion capacity in agar media, as well as the absence of small-molecular-weight bioactive peptides. The addition of pineapple and orange extracts, as well as the use of lysozyme and protease as positive controls, also did not demonstrate inhibitory effects. Therefore, the crude protein extract of *dali ni horbo* has not yet shown potential as an antibacterial or antifungal agent. Further studies involving protein purification and alternative testing methods such as the Minimum Inhibitory Concentration (MIC) assay are required to more accurately evaluate its antimicrobial potential.

Keywords: antibacterial, antifungal, *dali ni horbo*, milk fermentation, protein extract.