

PENGARUH VARIASI LAMA PENYIMPANAN REAGEN KERJA PADA
SUHU RUANG TERHADAP AKTIVITAS ENZIM *ALANINE*
AMINOTRANSFERASE (ALT) METODE KINETIK

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ABSTRAK

Latar Belakang: Pemeriksaan aktivitas enzim *Alanine Aminotransferase* (ALT) merupakan tes untuk mendiagnosis kerusakan hati. Pemeriksaan menggunakan cara manual harus membuat reagen kerja. Reagen kerja yang dibuat berlebih sehingga mengalami penyimpanan. Lama penyimpanan reagen kerja akan mempengaruhi hasil pemeriksaan.

Tujuan Penelitian : Mengetahui pengaruh variasi lama penyimpanan reagen kerja pada suhu ruang terhadap aktivitas enzim ALT metode kinetik.

Metode Penelitian : Penelitian ini eksperimen semu dengan desain *post test only control grup*. Intervensi terhadap reagen kerja ALT yang segera dipakai dan disimpan pada suhu ruang ber-AC (23°C) selama 3, 6, 9 hari. Kemudian diukur aktivitas enzim ALT menggunakan serum kontrol sehingga diperoleh 32 data.

Hasil Penelitian : Analisis deskriptif menunjukkan peningkatan rerata hasil pemeriksaan aktivitas enzim ALT menggunakan reagen kerja segera dipakai dan disimpan selama 3, 6, 9 hari. Analisis statistik *One-Way Anova* menunjukkan ada perbedaan hasil pemeriksaan aktivitas enzim ALT menggunakan reagen kerja segera dipakai dan disimpan pada suhu ruang selama 3, 6, 9 hari. Uji lanjut menunjukkan lama penyimpanan 6 hari sudah memberikan perbedaan yang signifikan. Uji regresi menunjukkan semakin lama penyimpanan reagen kerja pada suhu ruang maka aktivitas enzim ALT semakin meningkat. Peningkatan aktivitas enzim ALT karena penyimpanan reagen kerja pada suhu ruang sebesar 89,9% dan 10,1% disebabkan oleh faktor lain.

Kesimpulan : Tidak ada pengaruh lama penyimpanan reagen kerja selama 3 hari dan ada pengaruh lama penyimpanan reagen kerja selama 6 dan 9 hari pada suhu ruang terhadap hasil pemeriksaan aktivitas enzim ALT metode kinetik.

Kata Kunci : Lama penyimpanan, reagen kerja, enzim *Alanine Aminotransferase*

THE EFFECT OF STORAGE PERIOD VARIATIONS OF WORK REAGENTS
AT ROOM TEMPERATURE ON THE ACTIVITY OF *ALANINE*
AMINOTRANSFERASE KINETIC METHOD

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ABSTRACT

Background: Alanine Aminotransferase (ALT) enzyme activity is a test to diagnose liver damage. Manual inspection must make a working reagent. Work reagents made excessively so that they experience storage. The duration of storage of work reagents will affect the results of the examination.

Objective : To determine the effect of variations in the storage time of work reagents at room temperature on the activity of the enzyme ALT kinetic method.

Research Methods : This study was a quasi experiment with post test only control grup design. Interventions against ALT work reagents which are immediately used and stored at AC room temperature (23°C) for 3, 6, 9 days. Then the enzyme activity of ALT was measured using a control serum so that 32 data obtained.

Result : Descriptive analysis showed an increase in the average examination results of ALT enzyme activity using work reagents immediately used and stored for 3, 6, 9 days. One-Way Anova statistical analysis showed that there was a difference in the results of examination of the enzyme activity of ALT using a working reagent immediately used and stored at room temperature for 3, 6, 9 days. Further tests showed that 6 days of storage had a significant difference. Regression tests show the longer storage of working reagents at room temperature, the activity of the enzyme ALT is increasing. The increase in ALT enzyme activity due to the storage of working reagents at room temperature by 89.9% and 10.1% is caused by other factors.

Conclusion : There was no effect of storage duration of work reagents for 3 days and there was an effect of storage time of work reagents for 6 and 9 days at room temperature on the results of the ALT enzyme activity test kinetic method.

Keywords : Storage duration, working reagents, alanine aminotransferase enzyme