

ABSTRACT

Background: *Alanine Aminotransferase* (ALT) is an enzyme abundant in the liver. Examination of *Alanine Aminotransferase* (ALT) kinetic method by starting the sample must make a working reagent. The excess working reagent is stored. The time and temperature at which working reagents are stored will affect the examination outcomes.

Objective: Determined the effect of storing working reagents at a temperature of 2 – 8°C on the results of examining the activity of *Alanine Aminotransferase* (ALT).

Methods: This research was a pre-experimental study with a Static Group Comparison design. Samples of 7 normal sera and 7 pathological sera were examined for *Alanine Aminotransferase* (ALT) activity with working reagents stored for two weeks and four weeks at 2 – 8°C. The statistical analysis was tested using the data distribution test and 2-sample T-Test in pairs using *SPSS Version 20 for Windows*.

Results: The percentage difference in the results of examining the activity of *Alanine Aminotransferase* (ALT) used immediate-use acting reagents and working reagents stored for two weeks in the normal sample group and pathological sample group was 12.2% and 2.8%. Meanwhile, the percentage difference between the results of examining the activity of *Alanine Aminotransferase* (ALT) used immediate-use acting reagents and working reagents stored for four weeks in the normal sample group and pathological sample group was 20,8% and 0,4%. The results showed there was an effect of keeping the working reagents at a temperature of 2 – 8°C on the results of examined activity of *Alanine Aminotransferase* (ALT).

Conclusion: There is an effect of storing working reagents at a temperature of 2 – 8°C on the results of examining the activity of *Alanine Aminotransferase* (ALT) so that the working reagents cannot be used after being stored for 2 weeks.

Keywords: Storage Time, Working Reagent, *Alanine Aminotransferase*

ABSTRAK

Latar Belakang: *Alanin Aminotransferase* (ALT) merupakan enzim yang ditemukan pada kadar tinggi di jaringan hati. Pemeriksaan *Alanin Aminotransferase* (ALT) metode kinetik secara *sampel start* harus membuat reagen kerja. Reagen kerja yang dibuat berlebih akan disimpan. Lama dan suhu penyimpanan reagen kerja akan mempengaruhi hasil pemeriksaan.

Tujuan: Mengetahui pengaruh penyimpanan reagen kerja pada suhu 2 - 8°C terhadap hasil pemeriksaan aktivitas *Alanin Aminotrasferase* (ALT).

Metode: Penelitian ini merupakan penelitian pra-eksperimen dengan rancangan *Static Group Comparison*. Sampel dengan jumlah 7 serum normal dan 7 serum patologis diperiksa aktivitas *Alanin Aminotransferase* (ALT) dengan reagen kerja yang disimpan selama 2 minggu dan 4 minggu pada suhu 2 – 8°C. Uji analisis statistik dilakukan dengan uji distribusi data dan uji T-Test 2 sampel berpasangan menggunakan *SPSS Version 20 for Windows*.

Hasil: Persentase selisih hasil pemeriksaan aktivitas *Alanin Aminotransferase* (ALT) menggunakan reagen kerja segera dipakai dengan reagen kerja disimpan selama 2 minggu pada kelompok sampel normal dan kelompok sampel tinggi adalah 12,2% dan 2,8%. Sedangkan, persentase selisih hasil pemeriksaan aktivitas *Alanin Aminotransferase* (ALT) menggunakan reagen kerja segera dipakai dengan reagen kerja disimpan selama 4 minggu pada kelompok sampel normal dan kelompok sampel tinggi adalah 20,8% dan 0,4%. Hasil penelitian menunjukkan ada pengaruh penyimpanan reagen kerja pada suhu 2 – 8°C terhadap hasil pemeriksaan aktivitas *Alanin Aminotransferase* (ALT).

Kesimpulan: Ada pengaruh penyimpanan reagen kerja pada suhu 2 – 8°C terhadap hasil pemeriksaan aktivitas *Alanin Aminotransferase* (ALT) sehingga reagen kerja tidak dapat dipakai setelah disimpan 2 minggu.

Kata Kunci: Lama Penyimpanan, Reagen Kerja, *Alanin Aminotransferase*