ABSTRACT

Background: Internal quality assurance of clinical laboratory is done to ensure the quality of laboratory examination. One of the activities of internal quality assurance in clinical chemistry laboratories is quality control that requires control serum. Research says that the use of control materials from serum animals such as cow and horse is more recommended because animal serum is free of infectious diseases such as HIV, HBV, and HCV. One of the quality control parameters in clinical laboratory is total protein examination.
Objective: To determine the results of homogeneity and stability tests of cow serum with the use of NaN_3 preservatives at 2% stored at -20°C to total protein levels.
Methods: This study is a quasi-experimental using Pre and Post Test design. The object of this research is cow blood taken from Segoroyoso Slaughterhouse, Imogiri, Bantul. Data analysis using homogeneity and stability tests were calculated statistically based on ISO 13258:2005.
Results: The homogeneity test data obtained a value of 0.3 σ is 0.87876, then the sample is declared homogeneous because it meets the criteria $Ss \leq 0.3\ \sigma$ which is $0.04784 \leq 0.87867$. Based on homogeneity test data obtained Xr = 7.93000 and stability test data obtained Yr = 7.75 so that $|Xr - Yr| = |7.93000 - 7.75| = 0.19$, the price of $0.3\ \sigma = 0.87867$, then the sample is declared stable because it meets the criteria $|Xr - Yr| \leq 0.3\ \sigma$ which is $0.19 \leq 0.87867$.
Conclusion: Cow serum that have been stored for 10 weeks at -20°C are considered homogeneous and stable to total protein levels by meeting the criteria in ISO 13528:2005.

Keywords: Homogeneity, stability, cow serum, total protein levels

ABSTRAK

Latar Belakang : Pemantapan mutu internal laboratorium klinik dilakukan untuk menjamin kualitas pemeriksaan laboratorium. Kegiatan pemantapan mutu internal laboratorium kimia klinik salah satunya adalah kontrol kualitas yang membutuhkan serum kontrol. Penelitian mengatakan bahwa penggunaan bahan kontrol dari serum hewan seperti sapi dan kuda lebih direkomendasikan, dengan alasan serum hewan bebas dari penyakit menular seperti HIV, HBV, dan HCV. Parameter kontrol kualitas di laboratorium klinik salah satunya adalah pemeriksaan total protein.
Tujuan Penelitian : Diketahui hasil uji homogenitas dan stabilitas serum sapi dengan penggunaan pengawet NaN3 2% yang disimpan pada suhu -20^{o}C terhadap kadar total protein.
Metode Penelitian : Penelitian ini adalah eksperimen semu menggunakan desain *Pre and Post Test*. Objek penelitian ini adalah darah sapi yang diambil dari Rumah Potong Hewan Segoroyoso, Imogiri, Bantul. Analisis data menggunakan uji homogenitas dan stabilitas yang dihitung secara statistik berdasarkan ISO 13258:2005.
Hasil Penelitian : Data uji homogenitas didapatkan nilai 0,3 σ adalah 0,87876, maka sampel dinyatakan homogen kerena telah memenuhi kriteria Ss ≤ 0,3 σ yaitu 0,04784 ≤ 0,87867. Berdasarkan data uji homogenitas diperoleh Xr = 7,93000 dan data uji stabilitaaas diperoleh Yr = 7,75 sehingga |Xr – Yr| = |7,93000 - 7,75| = 0,19, harga 0,3 σ = 0,87867, maka sampel dinyatakan stabil karena memenuhi kriteria |Xr – Yr| = ≤ 0,3 σ yaitu 0,19 ≤ 0,87867.
Kesimpulan : Kadar Serum sapi yang sudah disimpan selama 10 minggu pada suhu -20°C dinyatakan homogen dan stabil terhadap kadar total protein dengan memenuhi kriteria dalam ISO 13528:2005.

Kata Kunci : Homogenitas, stabilitas, serum sapi,kadar total protein.