

UJI HOMOGENITAS DAN STABILITAS KADAR KALIUM PADA SERUM SAPI YANG DISIMPAN SELAMA 10 MINGGU PADA SUHU -20°C

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ABSTRAK

Latar Belakang : Pemantapan mutu internal laboratorium klinik dilakukan untuk menjamin kualitas pemeriksaan laboratorium. Salah satu kegiatannya adalah kontrol kualitas yang membutuhkan serum kontrol. Hal tersebut menjadi kendala di setiap laboratorium klinik apabila waktu pengadaan serum kontrol komersial masih lama dan harga yang mahal. Penelitian dari WHO (1986) mengatakan bahwa penggunaan bahan kontrol dari serum hewan seperti sapi dan kuda lebih direkomendasikan karena mudah didapat, ekonomis, dan bebas dari penyakit menular seperti HIV, HBV dan HCV. Syarat bahan kontrol yaitu harus homogen dan stabil. Parameter kontrol kualitas di laboratorium klinik salah satunya adalah pemeriksaan kadar kalium.

Tujuan Penelitian : Mengetahui homogenitas dan stabilitas kadar kalium pada serum sapi yang disimpan selama 10 minggu pada suhu -20°C.

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 13528:2005.

Hasil Penelitian : Data uji homogenitas didapatkan nilai $0,3\sigma$ adalah 0,91878, maka sampel dinyatakan homogen karena telah memenuhi kriteria $S_s \leq 0,3 \sigma$ yaitu $0,00000 < 0,91878$. Berdasarkan data uji homogenitas diperoleh $X_r = 5,895$ dan data uji stabilitas diperoleh $Y_r = 6,02$ sehingga $|X_r - Y_r| = 0,12$, harga $0,3 \sigma = 0,91588$, maka sampel dinyatakan stabil karena memenuhi kriteria $|X_r - Y_r| \leq 0,3 \sigma$ yaitu $0,12 < 0,91588$.

Kesimpulan : Kadar Kalium pada serum sapi yang disimpan selama 10 minggu pada suhu -20°C dinyatakan homogen dan stabil.

Kata kunci : Homogenitas, stabilitas, serum sapi, kadar kalium.

**HOMOGENEITY AND STABILITY TEST OF THE
CONCENTRATION OF POTASSIUM IN BOVINE SERUM STORED
FOR 10 WEEKS AT TEMPERATURE -20°C**

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ABSTRACT

Background : Internal quality assurance of clinical laboratory is done to ensure the quality of laboratory examination. One of the activities is quality control that requires serum control. This becomes an obstacle in every clinical laboratory when the procurement time of commercial control serum is still long and the price is expensive. Research from WHO (1986) says that the use of control ingredients from animal sera such as bovine and horse is more recommended because it is easy to get, economical, and free of infectious diseases such as HIV, HBV and HCV. Terms of control materials that must be homogeneous and stable. Quality control parameters in clinical laboratory one of them is examination of Potassium levels.

Objective : This study aimed to homogeneity and stability of the concentration of potassium in bovine serum stored for 10 weeks at -20°C.

Methods : This research was a quasi experiment used Pre and Post Test design. The object of this research was bovine blood taken from Segoroyoso Slaughterhouse, Imogiri, Bantul. The data analysis used homogeneity and stability test that calculated statistically based on ISO 13528:2005.

Results : Data homogeneity test obtained value of 0.3σ was 0.91878, then the sample was homogeneous because it meets the criteria $S_s \leq 0.3 \sigma$ that is $0.00000 < 0.91878$. Based on the homogeneity test data obtained $X_r = 5.895$ and the stability test data obtained $Y_r = 6.02$, so that $|X_r - Y_r| = 0.12$, the price was $0.3 \sigma = 0.91588$, then the sample was declared stable because it meets criteria $|X_r - Y_r| \leq 0.3 \sigma$ that is $0.12 < 0.91588$.

Conclusion : The concentration of Potassium in bovine serum that stored for 10 weeks at -20°C was homogeneous and stable.

Keywords : Homogeneity, stability, bovine serum, potassium level.