

## ABSTRACT

Quality control is an activity that can improve the quality of the laboratory which is carried out by conducting an examination using a control serum. Homemade lyophilized serum is an alternative control serum that is relatively inexpensive and easy to obtain than commercial control serum. This study aimed to determine the stability of reconstituted homemade lyophilized control serum stored for 8 weeks at a temperature of (-2)°C to (-4)°C and (-20)°C on creatinine and BUN levels.

This research was conducted at the Clinical Laboratory of Poltekkes Kemenkes Surabaya in March-May 2022 with the type of experimental research and a one group pretest-posttest design. The reconstituted homemade lyophilized serum was stored at (-2)°C to (-4)°C and (-20)°C, the serum was checked once a week for 8 weeks.

The results of homemade lyophilized serum creatinine and BUN levels after reconstitution stored at (-2)°C to (-4)°C and (-20)°C were not out of the control limit  $\pm 2SD$  so they could be declared stable with a CV creatinine value 4-6% and BUN 7-8%. Based on the regression test analysis, it is known that storage time has an effect of 51.3% on serum creatinine levels stored at (-2)°C to (-4)°C and has an effect of 79.3% on serum creatinine levels stored at (-20)°C. Storage time has an effect of 76% on serum BUN levels stored at (-2)°C to (-4)°C and 75.1% effect on serum creatinine levels stored at (-20)°C.

**Keywords :** *BUN, Creatinine, Homemade Lyophilized Serum, Reconstitution*