Thus, it is not enough to check the concentration of the active principle of a drug, but the biological activity of this drug in the alive cell also should be checked. In this study, an estimation of a biological activity of insulin drugs took place by comparing the activity of the insulin in the test preparation by standardized insulin. The potency estimated indirectly by estimating its biological effect that is decreasing the blood glucose level in laboratory mice. Insulin is one of the drugs that can be present chemically but biologically inactive, that is why bioassay should take place. Comparing here is not simple as comparing means in T-test or ANOVA, the latter two methods only show whether there is a significant difference or not. Moreover, RCD is better than using cross-over design as the analysis took place one time on mice, so no data missed.