

Title: AVAILABILITY OF STRAINS OF *Staphylococcus aureus* STORED AT DIFFERENT TEMPERATURES

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Abstract

Among the creatures that are in greater quantity on the planet are pointed out the bacteria. These can be pathogenic or beneficial to other living beings, particularly for plants and animals. His biotechnological potential in the production of secondary metabolites, food additives, remediation of degraded ecosystems and genetic engineering has represented a major breakthrough for the humanity. Therefore, it is necessary to preserve species with morphological characteristics and Genetic unchanged, allowing there are strains available for the laboratory tests. Several studies have been developed regarding the preservation of microorganisms for long time and although many institutions are investing in the formation of collections and biobanks, adopting each, own protocols for this purpose, there is no universal standard formula for the preservation of microorganisms, as this depends on the particularities of each species to be studied. The aim of this work was to determine the viability of *Staphylococcus aureus* strains for 12 months by strains in cold storage environment with glycerol coverage (cryoprotectant). They were prepared three sets of injectable vials with three replications, containing strains of *S. aureus* in agar inclined water, which were subjected to temperatures of 10°C, -20°C and -80°C. Each month was performed reactivation of bacteria in *Brain Heart Infusion Broth(BHI)* followed by seeding in *Mannitol Egg Yolk Polymyxine Agar (MYP)*, to evaluate the viability of strain over the influence of low temperatures, storage time and cryoprotector efficiency regarding your biochemistry activity in response to this differential medium. The results showed that the higher the storage time at 10 ° C, the higher the efficiency loss of the strains, but for the strains stored at -20 ° C and -80 ° C, there was no significant difference in viability during the 12 months Tests also demonstrating the effectiveness of glycerol as a cryoprotectant. These results show that the preservation of the bacteria *Staphylococcus* genus refrigerated at -20 ° C and -80 ° C is an important tool for the storage of their strains, as well as the importance of testing prior to the conservation of microorganisms. Moreover there is the need for other tests cryoprotectants and other preservation methods such as the use of liquid nitrogen and lyophilization.

KEYWORDS: Bacteria, cryopreservation, cryoprotector.

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