

BIO_27 - Evaluation of the nutritive capacity of triptone soy agar used in environmental monitoring after storage in the monitored areas

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Introduction: An effective environmental monitoring program is one of the main elements in ensuring that aseptic production areas in pharmaceutical industries are within the appropriate contamination control limits. However, the culture media used in the environmental monitoring of clean rooms and controlled environments must be checked for their nutritional capacity to ensure their viability. Culture media from environmental monitoring in the Institute of Technology on Immunobiologicals (Bio-Manguinhos)'s clean areas can be stored for a maximum of 48 h before being incubated, under temperature conditions between 20-25°C. However, in order to ensure that the culture medium has not had its viability affected until it is incubated, it is necessary to assess the maintenance of the nutrient capacity of tryptone soy agar (TSA), used in environmental monitoring.

Objectives: The aim of this study was to evaluate the nutrient capacity of TSA used for environmental monitoring in Bio-Manguinhos, after storage in the monitored area for up to 72 h.

Methodology: Suspensions of bacteria, yeasts and fungi used in the TSA growth promotion test were prepared, as well as in house strains. Each suspension was tested on 90x15cm TSA plates and RODAC TSA plates at 0, 24, 48 and 72 h and three incubations were carried out: 20±2.5°C, simulating the pre-incubation period, in which the plates are stored in the area, the second and third incubations refer to the incubation of the monitoring plates established by internal procedures: 5 days/22.5±2.5°C and 3 days/32.5±2.5°C. After, the recovery rates of the microorganisms were evaluated, which should not be <50% in relation to the initial inoculum. The recovery percentages of the strains were statistically evaluated using single factor analysis of variance (ANOVA).

Results: The recovery rates for each microorganism tested were higher than 50% and no statistically relevant differences were observed for both media (TSA and TSA-RM) and incubation periods.

Conclusion: The period in which the TSA plates are stored before incubation does not alter the nutrient capacity of the culture medium, ensuring the quality of the environmental monitoring process performed in Bio- Manguinhos.

Keywords: Environmental monitoring; Nutritive capacity and aseptic production