

A New Amies Medium +20% Glycerol Device for the Collection and Long Term Frozen Storage of Clinical Specimens for Bacteria Culture

INTRODUCTION

Studies to monitor bacteria load during infection or changes in bacterial pathogens in response to vaccination and antibiotics has became crucial in microbiology. Frozen storage of study specimens in the original collection device allows performing bacteria culture at the same time and under the same conditions for all the samples collected. After many requests from microbiologists, Copan developed a new LBM collection device, this is realized with a tube of 1 mL containing the Amies Liquid Medium+20% of glycerol, and a regular FLOQSwab[™], for the collection and frozen storage of clinical specimens for bacteria culture.

OBJECTIVE

The objective of this study was to validate the performance of the new Amies Liquid Medium+20%glycerol, for the isolation of bacteria after long term frozen storage at -20°C and -80°C using a panel of ATCC bacteria strains.



MATERIALS

ATCC bacteria strains	
P. aeruginosa	BAA-427
S. pyogenes	19615
S. pneumoniae	6305
H. influenzae	10211
B. fragilis	25285
P. anaerobius	27337
P. acnes	6919
N. gonorrhoeae	43069
MRSA	43300
E. coli	25922
S. aureus	6538
Table 1	

another with uncountable CFUs.

For stability, devices were tested monthly up to 1 year. At each storage time, 10ul of each tube inoculated with different bacteria was manually plated using a micropipette and spreaders and WASP automated plated using a 10ul loop on the appropriate agar plates. All plates were incubated for 24/48h at 35°C under appropriate conditions. CFUs were counted and results recorded for all culture plates. The results were expressed as percentage of recovery.





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METHODS

In this study ATCC bacteria strains described in Table 1 were used. Starting from a 0.5McF dilution of fresh cultures for each bacteria strain, two dilutions were prepared, one with countable CFUs (200-500/100ul) and

The new Amies Liquid Medium+20% of glycerol were inoculated with 100ul of each dilution per each strains and the swab was broken inside the tube. Two sets of 12 tubes for each bacteria and dilutions were prepared:

one tube was used at T=0 (baseline)

• Remaining tubes were stored at -80°C and -20°C.

RESULTS

Bacteria Viability/Months



No loss of bacteria viability was recorded with the new Amies Liquid Medium+20% glycerol devices inoculated for all the bacteria strains when comparing the zero time CFUs counts to the CFUs counts obtained after all intervals and storage temperatures.

CONCLUSIONS

The data obtained suggests that the new Copan Amies Liquid Medium+20%glycerol + FLOQSwab[™] device: - supports the viability of a wide range of aerobic, anaerobic and

- fastidious bacteria
- frozen storage of specimens for clinical and research studies.

can be potentially used for the collection, transport and long term

