

# LyfoCults® TECHNICAL INFORMATION



**NAME AND INTENDED USE:** LyfoCults® are vials of individual cultures of freeze-dried microorganisms used to assist in the quality control of microbiological media, reagents and identification systems.

**SUMMARY AND EXPLANATION:** LyfoCults® are derived from nationally recognized culture collections such as the American Type Culture Collection. These organisms have consistent biochemical profiles or know susceptibility patterns and can be used as internal standards to evaluate an individual laboratory's procedures and practices. Many accrediting organizations require the use of quality control organisms as part of a laboratory quality assurance / quality control program.

**PRINCIPLES OF THE PROCEDURE:** Continuous subculturing of microbial cultures increases the potential for mutation, contamination and loss of viability. Alternatively, microbial cultures preserved by lyophilization retain their viability. Upon rehydration, they are rejuvenated and ready for use in quality controlling a variety of diagnostic reagents and procedures.

**MATERIALS SUPPLIED:** Each LyfoCults® vial contains a high-titered, lyophilized culture of a reference microorganism.

**PRECAUTIONS:** LyfoCults® are for use by properly trained individuals who are familiar with laboratory procedures necessary for working with infectious materials. Precautions should be taken against the dangers of microbiological hazards by properly sterilizing containers and media after their use.

**STABILITY AND STORAGE:** LYFOCULTS® should be stored in its original container at 2-8° C until used. **Quality Technologies does not recommend freezing or re-use of LyfoCults® after they are initially rehydrated and does not warrant the product if re-use occurs.**

**PRODUCT DETERIORATION:** This product should not be used if there are any signs of deterioration. **Quality Technologies does not warrant the product after the expiration date.**

**MATERIALS REQUIRED BUT NOT SUPPLIED:** (1) loop sterilization device, (2) inoculation loop, (3) rehydration fluid, (4) sub-culture media.

**REHYDRATION PROCEDURE:** Carefully unscrew the cap of a LyfoCults® vial and aseptically add approximately 0.25ml of sterile Tryptic Soy Broth, Saline or purified H<sub>2</sub>O for aerobic bacteria and fungi. Anaerobic and micro-aerophilic bacteria should be rehydrated with approximately 0.25ml of Thioglycollate broth. Re-cap the vial and mix gently. **DO NOT INVERT.** The resulting suspension is used to inoculate the appropriate plating medium. Consult table below for suggested plating media, incubation temperatures and atmosphere.

**PERFORMANCE CHARACTERISTICS:** Most aerobic bacteria will demonstrate luxuriant growth in 24 hours. Fastidious organisms, fungi and anaerobes may take additional incubation time (as indicated in Table 1) to demonstrate good growth.

**LIMITATIONS:** LyfoCults® are only part of an overall laboratory quality control program. Other procedures should be employed to ensure accuracy and consistency in all aspects of laboratory performance.

**REFERENCES:**

1. Official Methods of Analysis of the Association of Official Analytical Chemists.
2. Manual of Quality Control Procedures for Microbiology Laboratories, 3rd. Ed., 1981, Centers for Disease Control, Atlanta, GA.

Table 1. SUGGESTED LyfoCults® REHYDRATION CONDITIONS

Microorganisms	Plating Media	Atmosphere	Incubation period
Aeromonads	NA or BAP	35° C, Air	24 hrs
Anaerobes	P-BAP	35° C, Anaero	2-5 days
Bacillus species	NA	35° C, Air	24 hours
Bordetella species	BAP	35° C, Air	24-72 hours
Campylobacters	BAP	35° C, Micro	48-96 hours*
Enterobacteriaceae	BAP	35° C, Air	24 hours
Fungi	SAB	RT, Air	5-7 days
Gardnerella	CHOC	35° C, CO <sub>2</sub>	24-48 hours
Gram-positive Cocci	BAP	35° C, Air	24 hours
Haemophilus species	CHOC	35° C, CO <sub>2</sub>	48 hours
Neisseria species	CHOC	35° C, CO <sub>2</sub>	48-72 hours
Pseudomonads/NFB	NA or BAP	35° C, Air	24 hours
Yeasts	SAB	RT, Air	48-96 hours

BAP = Non-selective Sheep Blood Agar; CHOC = Chocolate Agar; NA = Nutrient Agar; P-BAP = Pre-reduced BAP containing vitamin-K and hemin; SAB = Saboraud Dextrose Agar;  
Air = Aerobic Incubation; Anaero = Anaerobic Incubation; CO<sub>2</sub> = CO<sub>2</sub> Incubation; Micro = Microaerophilic Incubation;  
RT = Room Temperature.

\*Campylobacters grow more rapidly if they are pre-incubated in Thioglycollate broth for 15 minutes before they are plated.