61348 Lactose Gelatin Medium (Base)

For the detection of lactose and gelatine metabolizing microorganisms (*Cl. perfringens*).

Composition:

Ingredients	Grams/Litre
Meat peptone (peptic)	15.0
Yeast extract	10.0
Lactose	10.0
Disodium hydrogen phosphate	5.0
Phenol red	0.05
Final pH 7.5 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:
Dissolve 40 g in 1 litre distilled water. Adjust the pH then add 120 g gelatine 180 Bloom (Cat. No. 48722) and bring to the boil to dissolve. Pour a deep layer in screw-cap tubes and sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:
Clostridia can be found widely distributed in the environment. Soil, fresh water and marine water and sediments are some natural sources(1). *Clostridium* species are one of the major causes of food poisoning / gastro-intestinal illnesses. Some very potent pathogens of the genus *Clostridium* are *Clostridium botulinum*, *Clostridium tetani* and *Clostridium perfringens*, which are able to produce highly toxic toxins. Lactose Gelatin Medium is recommended from AOAC (3) and APHA for detection of *Clostridium perfringens* in foods (4).
Meat peptone and yeast extract provides nitrogen, carbon compounds, vitamins and amino acids. Lactose is the fermentable sugar and phenol red acts as fermentation indicator, which changes from red to yellow due to acid production. Following incubation the medium tube is cooled down for 1 hour at 5°C. If the medium is still solid it should be incubated for another 24 hours to examine gelatin liquefaction.
The medium is stab inoculated from a pure Fluid Thioglycollate Medium culture or isolates from Tryptose Sulphite
Cycloserine (TSC) Agar plate. Refer appropriate references for standard procedures (3).

Cultural characteristics after 24-48 hours at 35-37°C (under anaerobic conditions)

Organisms (ATCC)	Inoculum	Growth	Lactose fermentation	Gelatine liquefaction
Clostridium perfringens (12924)	50-100	+++	acid and gas production	+
Clostridium paraperfringens (27639)	50-100	++	acid production	+

References:
1. P.R. Murray, J.H. Baron, M.A. Pfaller, J.H. Jorgensen, R.H. Yolken, (Ed.), Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C. Revision (2003)
2. J.R. Czeczulin, P.C. Hanna, B.A. Mcclane, Cloning, nucleotide sequencing, and expression of the Clostridium
perfringens enterotoxin gene in Escherichia coli. Infect. Immun., 61, 3429-3439 (1993)
3. FDA Bacteriological Analytical Manual, 18th Ed., AOAC, Washington, DC (2005)
4. F.P. Downes, K. Ito, (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.