

Easygel Coliscan Medium

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Easygel Coliscan medium is used to identify and differentiate between general coliform bacteria such as Citrobacter and Klebsiella Enterobacter and Fecal coliforms (E.coli). The general Coliform bacteria will form **pink colonies** in/on Easygel Coliscan media and the E.coli will grow as **purple colonies**. All coliform bacteria are members of the family Enterobacteriaceae, defined as Gram-negative, non-spore-forming rods which ferment the sugar lactose with the formation of acid and gas.

Many coliforms are normally found in soil and in water but Escherichia coli (E. coli) is one of the principal bacteria in the mammalian intestinal tract and its presence in food or water indicates fecal contamination. It should be stressed that E. coli are part of the normal bacterial gut flora, and relatively few strains of E. coli cause disease.

1. Collect the sample in a sterile container and transport to the test site. Samples to be kept for longer than one hour should be stored on ice or in a refrigerator until plated.
2. Use a sterile pipette or syringe to transfer a suitable size sample (e.g. 0.1ml, or 1.0ml, or 5.0ml) into the bottle of nutrient and gently swirl to mix. Do not shake as this will cause air bubbles to form.
3. Label the pretreated petri dish with the appropriate information, then pour the nutrient sample mix into the bottom half of the dish. The nutrient will not gel unless the correct half of the specially pre-treated petri dish is used.
4. Ensure the petri dish is positioned the right way up on a level surface, for 45-60 minutes. This is the time required for the nutrient to gel. When gel has set, invert plates for incubation.
5. Incubation:- Easygel will work quite effectively when incubated at room temperatures of between 20 to 24°C, however the bacteria will grow faster at higher temperatures in the range of 30 to 35°C. Incubate for 24 hours at 35°C or for 48-72 hours at room temperature.
6. Tips on incubation:- When incubating at “room temperature”, find the warmest place in the building, (e.g. on top of the hot water system is a good spot). To elevate temperatures a simple “incubator” can be constructed using a cardboard box approximately 300mm long by 200mm wide by 300mm high lined with aluminium foil or the like and a free standing desk or reading lamp to provide the necessary warmth. Place a thermometer in the box and position the lamp directly over the centre and level with the top of the box. Temperature adjustments can be made by varying the height of the lamp or the strength of the bulb within the lamp. Shield the plates so that they are not directly exposed to the light. Do not locate the lamp too close to the dishes as this will cause browning of the media. Test the set up prior to inserting the plates to ensure the desired temperature has been achieved.
7. Reading Results:- Each bacterial colony on or in the medium represents one bacterial cell in the original sample. For example, assuming you used a 2 ml sample and you counted 50 colonies, this indicates approximately 25 bacteria per ml of the original sample.
8. It is essential to obtain countable numbers of colonies in/on the media. To achieve this, it may be necessary to use as little as 0.1 ml of sample or even 1 in 10 or 1 in 100 dilutions of that sample in the case of samples with large numbers of bacteria present.

Ref: ENV5.96 10/04/03