

Comparison of soybean casein medium (TSB) and fluid lactose medium (LB) in *Escherichia coli* detection of nine oral drug products

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Background and Aims: The present research was performed to explore differences between two sugar sources for tracing of EColi. in nine oral different products (i.e. Syrup:L-Carnitine, Diphenhydramine, Zinc Sulphate, Expectorant, Salbutamol, Pedicold, Theochal-G, Suspension: Ibuprofen, Metronidazole).

Methods: Test methods for specified microorganisms (EColi.) were compared in this study. It was inoculated <100 CFU EColi ATCC:8739 to each product and they were sampled for test. At first total microbial count was done on each polluted product. 10 ml of each one was transferred to 90 ml of LB and also to 90 ml of TSB. LB medium was incubated at 30-35 C⁰ for 48h then they were subcultured on MacConkey Agar at 30-35 C⁰ for 48h. TSB mediums were Shaked well and 1ml of each medium was transferred to 100 ml of MacConkey Broth and they were incubated at 42-44 C⁰ for 48h. They were subcultured on MacConkey Agar plates at 30-35 C⁰ for 48h. These tests were done for three times.

Results: Growth of purple, large, surrounded by turbid zone were EColi. Although present of EColi was established in products before test, in some cases EColi couldn't have detected by LB medium, but in all oral products TSB medium had shown expected.

Conclusions: These findings confirm that because of simpler sugar (Glucose) TSB medium have good quality for enriching EColi. Lactose sugar can't be used always, so it's reasonable to substitute this medium for detection of EColi in pharmaceutical fields.

Keywords: *Escherichia coli*; MacConkey Agar; Fluid lactose medium; Soybean casein medium