

Identification of Inactive

E. coli

by Steven H. Hinrichs, M.D.

Escherichia coli and *Shigella* species are genetically closely related and a specific situation exists which may provide a diagnostic problem for the clinical laboratory. This situation occurs when a lactose-negative, non-motile organism is recovered and identified by commercial assays as *Shigella* species. We have encountered examples of mistaken identification by automated systems, although biochemical reactions did not follow the usual pattern and the data base indicated a low probability. Serotyping was helpful in identifying the organism as an inactive *E. coli*, also formerly called Alkalescens/Dispar. This biogroup of *E. coli* is typically lactose-negative on screening media, however is generally not thought to be pathogenic. The issue may be brought to the laboratory's attention when the clinician asks for clarification on an isolate reported as *Shigella*, but the patient is not experiencing continued diarrhea. The recognition of a mistaken identification may not be made until the major *Shigella* serogroups A, B, C, and D are tested and found to be negative. Confirmatory identification can be made with the API system. Should an isolate suspected to be inactive *E. coli* be found, NPHL will perform additional testing when requested for confirmation.