

Letters to the Editor

immediate drainage area of the initial lesion.

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Assessment of rapid method for identifying *Escherichia coli*

Most pathogenic enterobacteria identified in medical microbiology laboratories are *Escherichia coli*. If a simple, inexpensive, and rapid yet reliable method for identifying these isolates was available it would greatly improve efficiency. A kit recently introduced by API-bioMérieux (UK) Ltd, Rapidec coli, seemed to fulfil these requirements and we assessed its reliability based on results for 1000 *E coli* and 250 other enterobacteria isolated from urinary tract infections.

The Rapidec coli kits were supplied by the manufacturers (API-bioMérieux (UK) Ltd Basingstoke). Each organism is tested using four cupules designated C, S, 1 and 2; C is an opacity standard for the bacterial suspension which is prepared in S while 1 and 2 contain media for the detection of β glucuronidase and β galactosidase, respectively. The addition of James reagent (API-bioMérieux (UK) Ltd) to cupule 2 also detects indole production. Five groups of four cupules are combined on a plastic strip and any sets of four cupules not required can be cut off, refrigerated, and used the following day. Sterile distilled water is added to cupules C and S and the growth from two to three colonies of the organism to be tested is homogenised in cupules S to the same opacity as the standard; 50 μ l of the suspension are then transferred to each of the cupules 1 and 2. After incubation at 37° for two hours a yellow colour in cupules 1 and 2

Table Reliability of Rapidec coli designations of enterobacteria from urinary tract infections

Designation by Biochemistry*/API 20E	Rapidec coli			Total
	No of isolates			
	<i>E coli</i>	Non- <i>E coli</i>	Indeterminate	
<i>E coli</i>	897	3	100	1000
Non- <i>E coli</i>	0	212	38	250

*Based on Cowan¹.

indicates a positive test for β glucuronidase and β galactosidase, respectively; in negative tests the suspension remains colourless. After reading these results one drop of James reagent is added to cupule 2 in which the development of a red colour is positive for indole production. If all three tests are positive the organism is regarded as *E coli*, with only two tests positive the organism may be *E coli* but further tests are required (indeterminate) and with only one positive or all negative the organism is not *E coli* (non-*E coli*).

The 1250 isolates were designated as *E coli* or non-*E coli* on the basis of standard biochemical tests¹: the tests used included indole, MR/VP, citrate, malonate/PPA, urea, glucose, lactose and motility. If there was any doubt about the designation of any isolate, or this differed from that by Rapidec coli, then it was identified by API 20E as were all isolates designated as indeterminate by Rapidec coli; in these cases the definitive designation was determined by the API 20E result.

One thousand isolates were designated *E coli* by biochemistry or API 20E and 250 as non-*E coli* (*Citrobacter*, *Enterobacter*, *Hafnia*, *Klebsiella*, *Morganella*, *Proteus*, *Providencia* and *Serratia*); these designations, in relation to those derived from the Rapidec coli tests, are shown in the table. A designation of *E coli* by Rapidec coli was always correct. Three isolates were incorrectly designated non-*E coli* and in each case this was because the indole test was negative with Rapidec coli whereas it was positive by the standard method and by API 20E; two isolates were designated as indeterminate for the same reason. Of the 38 non-*E coli* designated indeterminate by Rapidec coli, 25 were *Klebsiella oxytoca*.

Rapidec coli was extremely easy and quick, both to set up and to read (average two minutes for an isolate). Used as a means of eliminating about 90% of *E coli* from more costly and time consuming identification procedures, it was absolutely reliable with these urinary enterobacteria, and by

giving a result in two hours it caused no delay in obtaining a result for those isolates requiring further identification. The savings to be made in any particular laboratory, by incorporating Rapidec coli in an identification procedure, would depend on its cost in terms of time and material relative to that of the usual identification method and on the proportion of enterobacteria routinely identified as *E coli*. For example, if the cost of Rapidec coli is 20% of the usual method then savings would be made once the proportion of *E coli* exceeded 22%; at 50% and 90% *E coli* the savings would be 25% and over 60% respectively.

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Nucleolar organiser regions and proliferative index in glandular and squamous carcinoma of the cervix

Little is known about the pathogenesis of adenocarcinoma and adenosquamous carcinoma of the cervix. The frequent association of adenocarcinoma in situ with squamous intraepithelial and invasive neoplasia, and the occurrence of mixed adenosquamous lesions, both in situ and invasive, suggests the possibility of common aetiological factors between glandular and squamous tumours. Although some larger studies have found no difference in survival