

Table 31.1 Cultural and Biochemical Characteristics of Unknown Organisms

Organism	Gram Stain	Agar Slant Cultural Characteristics	Litmus Milk Reaction	Fermentation			H <sub>2</sub> S Production	NO <sub>3</sub> Reduction	Indole Production	MR Reaction	VP Reaction	Citrate Use	Urease Activity	Catalase Activity	Oxidase Activity	Gelatin Liquefaction	Starch Hydrolysis	Lipid Hydrolysis
				Lactose	Dextrose	Sucrose												
<i>Escherichia coli</i>	Rod -	White, moist, glistening growth	Acid, curd ±, gas ±, reduction ±	AG	AG	A±	-	+	+	+	-	-	-	+	-	-	-	-
<i>Enterobacter aerogenes</i>	Rod -	Abundant, thick, white, glistening growth	Acid	AG	AG	AG±	-	+	-	-	+	+	-	+	-	-	-	-
<i>Klebsiella pneumoniae</i>	Rod -	Slimy, white, somewhat translucent, raised growth	Acid, gas, curd ±	AG	AG	AG	-	+	-	±	±	+	+	+	-	-	-	-
<i>Shigella dysenteriae</i>	Rod -	Thin, even, grayish growth	Alkaline	-	A	A±	-	+	±	+	-	-	-	+	-	-	-	-
<i>Salmonella typhimurium</i>	Rod -	Thin, even, grayish growth	Alkaline	-	AG±	A±	+	+	-	+	-	+	-	+	-	-	-	-
<i>Proteus vulgaris</i>	Rod -	Thin, blue-gray, spreading growth	Alkaline	-	AG	AG±	+	+	+	+	-	±	+	+	-	+	-	-
<i>Pseudomonas aeruginosa</i>	Rod -	Abundant, thin, white growth, with medium turning green	Rapid peptonization	-	-	-	-	+	-	-	-	+	-	+	+	+	+	+
<i>Alcaligenes faecalis</i>	Rod* -	Thin, white, spreading, viscous growth	Alkaline	-	-	-	-	-	-	-	-	±	-	+	+	-	-	-
<i>Staphylococcus aureus</i>	Cocci +	Abundant, opaque, golden growth	Acid, reduction ±	A	A	A	-	+	-	+	±	-	-	+	-	+	-	+
<i>Streptococcus lactis</i>	Cocci +	Thin, even growth	Acid, rapid reduction with curd	A	A	A	-	-	-	+	-	-	-	-	-	-	-	-
<i>Micrococcus luteus</i>	Cocci +	Soft, smooth, yellow growth	Alkaline	-	-	-	-	±	-	-	-	-	-	+	+	-	+	Slow
<i>Corynebacterium xerosis</i>	Rod +	Grayish, granular, limited growth	Alkaline	-	A±	A±	-	+	-	-	-	-	-	-	+	-	-	-
<i>Bacillus cereus</i>	Rod +	Abundant, opaque, white waxy growth	Peptonization	-	A	A	-	+	-	-	±	-	-	+	-	+	+	Rapid

Note: AG = Acid and gas; ± = Variable reaction; rod\* = Coccobacillus