

Evaluation of the new chromogenic media “CHROMagar™ Staph aureus” for presumptive identification of *S.aureus*.

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CHROMagar Staph aureus (CHROMagar, Paris, France) is a new chromogenic medium for isolation and identification of *S.aureus*. Colonies of *S.aureus* can be distinguished from those of coagulase negative *staphylococci* by a specific mauve colouration on **CHROMagar Staph aureus**. The target of this study was to evaluate the sensitivity and the specificity of **CHROMagar Staph aureus** for identification of *S.aureus* in reference to *Staphylococcus* spp stock isolates previously characterized by biochemistry.

The frozen stock strains were reisolated on 5% blood sheep agar and then plated on **CHROMagar Staph aureus** in order to obtain isolated colonies. **CHROMagar Staph aureus** was evaluated with 201 *Staphylococcus* spp isolates: 101 *S.aureus*, 49 *S.epidermidis*, 14 *S.saprophyticus*, 13 *S.hominis*, 7 *S.haemolyticus*, 6 *S.simulans*, 4 *S. auricularis*, 3 *S.capitis*, 2 *S.cohnii* and 2 *S.warnerii*. Those isolates were previously identified by colony morphology, Gram colouration, Catalase test, Mannitol salt, coagulase and biochemical differential tests. In parallel, we evaluated the development of bacteria of different genus such as *Enterococcus* spp (3): *E.faecalis*, *E.faecium*, *E.casseliflavus*, *M.luteus* (1); *Enterobacteriaceae* (10): *E.coli*, *K.pneumoniae*, *P.mirabilis*, *P.vulgaris*, *E.cloacae*, *E.aerogenes*, *S.marcescens*, *C.freundii*, *S.enteritidis* and *S.sonnei* and non fermentative gram negative bacteria (5): *P.aeruginosa*, *A.baumannii*, *A.lwoffii*, *S.maltophilia* and *B.cepacia*. We also evaluated the development of *Candida* spp (5).

The plates of **CHROMagar Staph aureus** were read after 24 hours incubation at 35°C in the dark. Colonies that appear pink to mauve were considered positive for *S.aureus*. Among 101 isolates characterized as *S.aureus* 101 gave pink to mauve colonies: 88 showed typical mauve colonies (2-3mm), 10 small mauve colonies (1mm) and 3 pink colonies whereas the CNS grew as beige, blue, green or grey colonies. The sensitivity and the specificity of **CHROMagar Staph aureus** for identification of *S.aureus* were thus 100% in this study.

S.epidermidis isolates develop a mauve background in the sowing site but the colonies were beige and of a diameter < 1mm some of which needing 48 hours to become visible. Anyway the mauve background of *S.epidermidis* cannot be confused with the typical aspect of *S.aureus*. 12/14 *S.saprophyticus* isolates grew as green colonies and the remaining 2 as beige colonies. The remaining SCN species did not show any characteristic colony colour. Among the other studied microorganisms *Enterococcus* spp yielded blue colonies while *M.luteus* gave yellow colonies. *B.cepacia* gave beige growth in sowing site and blue colonies. The remaining gram negative bacteria and *Candida* spp did not grow on **CHROMagar Staph aureus**.

CHROMagar Staph aureus medium has shown a high sensitivity and specificity for identification of *S.aureus*. None of the other evaluated species shows the typical colonial mauve aspect of *S.aureus*.