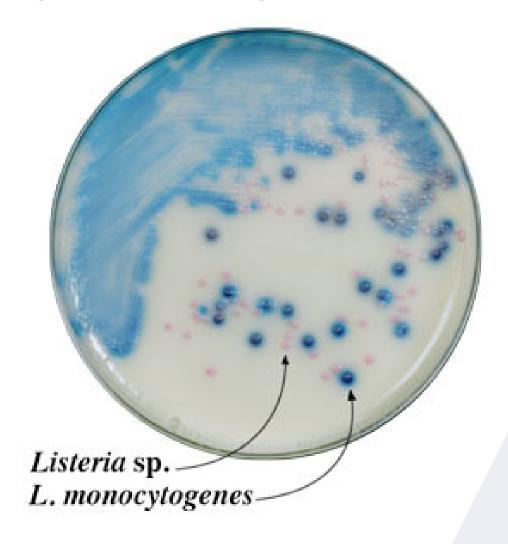
### LISTERIA SP./LISTERIA MONOCYTOGENES

#### CHROMOGENIC DETECTION SYSTEM

A Selective & Differential Medium For Detecting Nonpathogenic & Pathogenic Listeria On A Single Plate



Presumptively positive colonies of nonpathogenic Listeria sp. appear pink, whereas Listeria monocytogenes and Listeria ivanovii appear as blue-green to blue-violet colonies with or without a precipitate after 42-48 hours at 35°C.



# LISTERIA SP./LISTERIA MONOCYTOGENES

### CHROMOGENIC DETECTION SYSTEM

at 35°C for 42-48 hours ...

Bacteria	Number of Strains	Colonial Morphology
Listeria monocytogenes	39	Convex, 1-2 mm, blue-green to blue-violet, + precipitate
Listeria ivanovii	4	Convex, 1-1.5 mm, dark blue-green, large ppt.
Listeria innocua	6	Convex, 1-2 mm, pink, no ppt.
Listeria welshimeri	2	Convex, 1-2 mm, pink, no ppt.
Listeria seeligeri	1	Convex, 1-2 mm, pink, no ppt.
Listeria grayi	1	Convex, 1-2 mm, pink, no ppt.
Bacillus cereus/B. thuringiensis	3	No Growth
Enterococcus sp.*		Scant Growth; pinpoint; clear
Gram positive sp.**		No Growth
Gram negative sp.***		No Growth
Yeasts sp.****	3	No Growth

<sup>\*\*\*\*</sup> Zygosaccharomyces bailii and Z. rouxii; Candida albicans



<sup>\*</sup> Enterococcus faecalis, E. faecium, and E. avium

<sup>\*\*</sup> Includes: Bacillus circulans, and B. subtilis; Staphylococcus aureus, S. epidermidis, and S saprolyticus; Lactobacillus acidophilus and L. plantarum; and Pediococcus cerevisiae

<sup>\*\*\*</sup> Includes: E. coli (2 strains) and E. coli 0157:H7 (1 strain); Enterobacter aerogenes; Citrobacter freundii; Shigella sonnei; Morganella morganii; Providencia alcalifaciens; Pantoea agglomerans: Enterobacter sakazakii, Klebsiella pneumoniae and K. ozaenae

## LISTERIA SP./LISTERIA MONOCYTOGENES

#### CHROMOGENIC DETECTION SYSTEM

key advantages...

- This highly differential system is based on specific chro- mogenic substrates in the plating medium that simulta- neously differentiate both nonpathogenic Listeria species (L. innocua, L. seeligeri. L. welshimeri, and L. grayi) as pink colonies and the pathogenic Listeria species (L. monocytogenes and L. ivanovii) as blue-green to blue-violet colonies on a single plate in 42-48 h at 35°C.
- Unlike selective/differential agar for Listeria species that depend on the detection of only ß-glucosidase activity and produce a single color for colonies for all Listeria species, the differentiation mechanism in this system works by the combination of indoxyl derivative chromogenic sub- strates that produce positive color reactions for colonies of nonpathogenic Listeria sp. that are pink due to their ß- glucosidase activity, and blue-green to blue-violet for the pathogenic species depending on the strain-specific balance of ß-glucosidase (pink) and phosphatidylinositol-specific-phospholipase C (blue) activities.
- The agar surface of the plates have an opaque white back- ground that facilitates differentiation of colored colonies of both groups of Listeria organisms growing on the surface of the plate.
- A rapid and convenient fluorogenic test and acid from rhamnose are provided in the system that differentiates Listeria monocytogenes from Listeria ivanovii within 6 hours.

#### References...

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- 2. Restaino, L., E.W. Frampton, W.C. Lionberg, and A.L. Restaino. 2007. Detection of non pathogenic and pathogenic Listeria species by use of a chromogenic agar. Food Prot. Trends. 27:592-596.
- 3. Swiech, R. et al. 2008. Efficacy of a chromogenic plating medium for detaching Listeria species from environmental sam- ples. Poster No. P3-16, IAFP 2008.

