R & F® *Listeria sp./Listeria monocytogenes* Chromogenic Plating Medium

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.

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*Listeria monocytogenes* Acid production from rhamnose

Fluorescence

*R & F® Listeria sp./Listeria monocytogenes* Chromogenic Plating Medium Powder

*Listeria innocua*

*R & F® Listeria monocytogenes* Confirmatory Medium

Separates *L. monocytogenes* from *L. ivanovii*

Product contains BIOSYNTH AG patented substrate (PCT/EP98/01091)
### R & F® Listeria sp./Listeria monocytogenes Chromogenic Plating Medium at 35°C for 42-48 hours

<table>
<thead>
<tr>
<th>Bacterial Species</th>
<th># of Strains</th>
<th>Colonial Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Listeria monocytogenes</em></td>
<td>39</td>
<td>Convex, 1-2 mm, blue-green to blue-violet, ↓ precipitate</td>
</tr>
<tr>
<td><em>Listeria ivanovii</em></td>
<td>4</td>
<td>Convex, 1-1.5 mm, dark blue-green, large ppt.</td>
</tr>
<tr>
<td><em>Listeria innocua</em></td>
<td>6</td>
<td>Convex, 1-2 mm, pink, no ppt.</td>
</tr>
<tr>
<td><em>Listeria welshimeri</em></td>
<td>2</td>
<td>Convex, 1-2 mm, pink, no ppt.</td>
</tr>
<tr>
<td><em>Listeria seeligeri</em></td>
<td>1</td>
<td>Convex, 1-2 mm, pink, no ppt.</td>
</tr>
<tr>
<td><em>Listeria grayi</em></td>
<td>1</td>
<td>Convex, 1-2 mm, pink, no ppt.</td>
</tr>
<tr>
<td><em>Bacillus cereus/B. thuringiensis</em></td>
<td>3</td>
<td>No Growth</td>
</tr>
<tr>
<td><em>Enterococcus sp.</em></td>
<td></td>
<td>Scant Growth; pinpoint; clear</td>
</tr>
<tr>
<td><em>Gram positive sp.</em></td>
<td></td>
<td>No Growth</td>
</tr>
<tr>
<td><em>Gram negative sp.</em></td>
<td></td>
<td>No Growth</td>
</tr>
<tr>
<td><em>Yeasts sp.</em></td>
<td>3</td>
<td>No Growth</td>
</tr>
</tbody>
</table>

* Enterococcus faecalis, E. faecium, and E. avium
** Includes: Bacillus circulans, and B. subtilis; Staphylococcus aureus, S. epidermidis, and S. saprofyticus; Lactobacillus acidophilus and L. plantarum; and Propionibacterium acnes.
*** 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. aerumae.
**** Zygosaccharomyces bailii and Z. rouxii; Candida albicans

### Advantages of R & F® Listeria sp./Listeria monocytogenes Chromogenic Detection System

- This highly differential system is based on specific chromogenic substrates in the plating medium that simultaneously 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 β-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 substrates that produce positive color reactions for colonies of nonpathogenic *Listeria* sp. that are pink due to their β-glucosidase activity, and blue-green to blue-violet for the pathogenic species depending on the strain-specific balance of β-glucosidase (pink) and phosphatidylinositol-specific-phospholipase C (blue) activities.

- The agar surface of the plates have an opaque white background that facilitates differentiation of colored colonies of both groups of *Listeria* organisms growing on the surface of the plate.

### ORDERING INFORMATION:

- **M-1100 R & F® Listeria sp./Listeria monocytogenes Chromogenic Plating Medium**

- **M-1110 R & F® Listeria sp./Listeria monocytogenes Supplement for Plating Medium**

- **M-1150 R & F® Listeria sp./Listeria monocytogenes Chromogenic Detection System**

- **M-0520 R & F® Listeria monocytogenes Confirmatory Medium**

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### REFERENCES

