The facts about dilution versus antimicrobial removal devices (ARDs):

- Thermo Scientific VersaTREK media recovery has demonstrated equivalent recovery to ARDs\(^1\)
- ARDs do not work for all antibiotics\(^2\)
- Timing is an important factor in blood draws, regardless of the media used\(^3\)
- If a patient is responding to appropriate therapy and the organism is susceptible, the value of subsequent blood cultures is indeterminate
  - "Conflicting data have been published as to whether these products [ARDs] increase microbial recovery."\(^4\)
  - Even if ARDs claim to improve recovery, the additional positive bottles may not influence therapy or affect patient outcome
- Increased contamination has been associated with ARD media.\(^5\)

Impact of contamination results:

- Longer hospital stays (8 days vs. 12.5 days)
- Higher total patient charges ($8731 vs. $13,116)
- Higher laboratory charges ($1426 vs. $2057)
- Higher pharmacy charges ($798 vs. $1456)

- VersaTREK™ provides a larger dilution ratio than competitive media, allowing dilution of antimicrobials plus serum host factors

### Recovery of microorganisms from blood cultures depends on several variables:

- Timing of the blood draw
- Dilution ratio
- Serum host factors
- Media used
- Antimicrobial therapy
- MIC of the organism, which cannot be predicted at time of blood draw
- Instrument used
- Volume of blood drawn

While dilution and ARD media (resin, charcoal) work in certain scenarios, ARD media do not address all of these variables.

### Dilution Ratio of Blood Culture Media\(^4\)

<table>
<thead>
<tr>
<th>System</th>
<th>Media Type</th>
<th>Blood : Broth Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>BacT/ALERT(^\textregistered)</td>
<td>FAN (Aerobic, Anaerobic)</td>
<td>1:4</td>
</tr>
<tr>
<td></td>
<td>Plus Aerobic</td>
<td>1:2.5</td>
</tr>
<tr>
<td></td>
<td>Plus Anaerobic</td>
<td>1:2.5</td>
</tr>
<tr>
<td>BACTEC(^\textregistered)</td>
<td>Aerobic 80mL</td>
<td>1:8</td>
</tr>
<tr>
<td></td>
<td>Anaerobic 80mL</td>
<td>1:8</td>
</tr>
<tr>
<td>VersaTREK</td>
<td>EZ Draw 40A</td>
<td>1:8</td>
</tr>
<tr>
<td></td>
<td>EZ Draw 40N</td>
<td>1:8</td>
</tr>
</tbody>
</table>
Dilution provides a simple, proven and cost-effective approach:

✓ Dilution of critical serum host factors, improving organism recovery

✓ Dilution of antibiotics, further enhancing recovery

✓ Reduction of bottle inventory, simplifying phlebotomy

✓ Two-bottle media for all patient populations and scenarios

✓ Uncompromised nutritional components for excellence in fastidious organism recovery

✓ High concentrations of SPS are not required. SPS can be toxic to certain strains of H. influenzae, N. meningitidis, N. gonorrhoeae, P. anaerobius, G. vaginalis and Streptobacillus moniliformis

References:
2 LaBombardi, et. al. 2009, ASM, Poster C-048, Philadelphia, PA; Bartley, et. al. 1992, ASM,Poster C-083; Pfletz, et. al. 2003, ASM, Poster C-004; Flayhart et. al. 2007, JCM, Vol. 45, No. 3
3 TREK Technical Insert; BD Technical Insert; bioMerieux Technical Insert
4 Durne, et. al. 1997, Cumitech 1B, Blood Cultures III