Summary of Studies Supporting USDA Product Licensure

<table>
<thead>
<tr>
<th>Establishment Name</th>
<th>Elanco US Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA Vet Biologics</td>
<td></td>
</tr>
<tr>
<td>Establishment Number</td>
<td>196</td>
</tr>
<tr>
<td>Product Code</td>
<td>7890.01</td>
</tr>
<tr>
<td>True Name</td>
<td>Clostridium Perfringens Type C-Escherichia Coli Bacterin-Toxoid</td>
</tr>
</tbody>
</table>
| Tradename(s) / Distributor or Subsidiary (if different from manufacturer) | Bovine Pili Shield + C - Elanco US Inc.  
Bovine Pili Shield - Elanco US Inc.  
Elanco US Inc. |
| Date of Compilation Summary | February 12, 2020            |

Disclaimer: Do not use the following studies to compare one product to another. Slight differences in study design and execution can render the comparisons meaningless.
<table>
<thead>
<tr>
<th>Study Type</th>
<th>Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pertaining to</td>
<td>Clostridium Perfringens Type C (CPTC)</td>
</tr>
<tr>
<td>Study Purpose</td>
<td>To demonstrate passive immunity against CPTC</td>
</tr>
<tr>
<td>Product Administration</td>
<td>Intramuscular to pregnant heifers</td>
</tr>
<tr>
<td>Study Animals</td>
<td>Calves</td>
</tr>
<tr>
<td>Challenge Description</td>
<td></td>
</tr>
<tr>
<td>Interval observed after challenge</td>
<td></td>
</tr>
<tr>
<td>Results</td>
<td>Study data were evaluated by USDA-APHIS prior to product licensure and met regulatory standards for acceptance at the time of submission. No data are published because this study was submitted to USDA-APHIS prior to January 1, 2007, and APHIS only require publication of data submitted after that date.</td>
</tr>
<tr>
<td>USDA Approval Date</td>
<td>November 19, 1999</td>
</tr>
<tr>
<td>Study Type</td>
<td>Efficacy</td>
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<tr>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Pertaining to</td>
<td>Escherichia Coli</td>
</tr>
<tr>
<td>Study Purpose</td>
<td>To demonstrate effectiveness against Escherichia Coli in calves</td>
</tr>
<tr>
<td>Product Administration</td>
<td>Pregnant cattle</td>
</tr>
<tr>
<td>Study Animals</td>
<td>Calves</td>
</tr>
<tr>
<td>Challenge Description</td>
<td></td>
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<tr>
<td>USDA Approval Date</td>
<td>April 21, 1999</td>
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<tr>
<td>Study Type</td>
<td>Safety</td>
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<td>-----------------</td>
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<tr>
<td>Pertaining to</td>
<td>All</td>
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<tr>
<td>Study Purpose</td>
<td>To demonstrate safety under typical field conditions</td>
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<tr>
<td>Product Administration</td>
<td>Bovine including pregnant cows</td>
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<tr>
<td>Study Animals</td>
<td></td>
</tr>
<tr>
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<td>USDA Approval Date</td>
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