Bovine Rhinotracheitis-Virus Diarrhea Vaccine

**Bovi-Shield GOLD® 4**

**PRODUCT DESCRIPTION:** Bovi-Shield GOLD 4 is for vaccination of healthy cattle as an aid in preventing infections caused by infectious bovine rhinotracheitis (IBR) virus, bovine viral diarrhea (BVD) virus Types 1 and 2, and bovine parainfluenza Type 3 (PI3) virus. 

**DISEASE DESCRIPTION:** IBR, BVD, and PI3 viruses are commonly associated with respiratory disease and/or reproductive failure in cattle. IBR virus infection is characterized by high temperature, excessive nasal discharge, conjunctivitis and ocular discharge, increased rate of respiration, coughing, loss of appetite, and depression. Cattle infected during pregnancy may abort. 

**PRECAUTIONS:** Vaccination of healthy cattle is recommended. General Directions: Vaccination of healthy cattle is recommended. Vaccination of pregnant cattle provided they were vaccinated, according to label directions, with one of the Bovi-Shield FP or PregGuard FP products. In all three studies, control cattle received a single dose of Bovi-Shield GOLD 4, followed by challenge with a disease-causing strain of that fraction, showed no sign or had significantly fewer clinical signs than unsensitized control cattle. 

**SAFETY AND EFFICACY:** The cell lines on which the modified live virus fractions are propagated have been extensively tested to ensure freedom from adventitious agents. The cell lines on which the modified live virus is propagated are thereby facilitated and may result in pneumonia. Invasion and replication of other pathogens, particularly Pasteurellaspp., are heavily facilitated and may result in pneumonia. 

**SAFETY AND EFFICACY:** The following study demonstrated the safety of Bovi-Shield GOLD 4 when administered in two doses to pregnant cows previously vaccinated with one of the Bovi-Shield FP or PregGuard FP products. In all three studies, control cattle received a single dose of Bovi-Shield GOLD 4, followed by challenge with a disease-causing strain of that fraction, showed no sign or had significantly fewer clinical signs than unsensitized control cattle. Vaccination of healthy cattle is recommended. 

**CHALLENGE-OF-IMMUNITY STUDIES:** Cattle vaccinated with any fraction of Bovi-Shield GOLD 4 followed by challenge with a disease-causing strain of that fraction, showed no sign or had significantly fewer clinical signs than unsensitized control cattle. 

**DISCUSSION:** The effectiveness of Bovi-Shield GOLD 4 in providing protection from a strain of BVD Type 2 virus was demonstrated in a 2- or 3-dose trial, and vaccination of cattle with Bovi-Shield GOLD 4 was associated with respiratory disease and/or reproductive failure in cattle. 

**REFERENCES:** The effectiveness of Bovi-Shield GOLD 4 in providing protection from a strain of BVD Type 2 virus was demonstrated in a 2- or 3-dose trial, and vaccination of cattle with Bovi-Shield GOLD 4 was associated with respiratory disease and/or reproductive failure in cattle. 

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**CHART:**

<table>
<thead>
<tr>
<th>Group</th>
<th>Vaccine</th>
<th>% Subjects</th>
<th>% Mortality</th>
<th>% Viremia</th>
<th>% Morbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovi Shield GOLD 4</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><em>Observed ill for ≥1 day.</em></td>
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</tbody>
</table>

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**SAFETY AND EFFICACY:** The following study demonstrated the safety of Bovi-Shield GOLD 4 when administered in two doses to pregnant cows previously vaccinated with one of the Bovi-Shield FP or PregGuard FP products. In all three studies, control cattle received a single dose of Bovi-Shield GOLD 4, followed by challenge with a disease-causing strain of that fraction, showed no sign or had significantly fewer clinical signs than unsensitized control cattle. Vaccination of healthy cattle is recommended.

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