The ELISA test for simple, accurate brucellosis detection

Brucellosis—also known as contagious abortion—poses significant economic risks through reproductive and productivity losses, and is an important health concern for farmers, veterinarians and consumers. Brucellosis in cattle is usually caused by the bacteria *Brucella abortus*.

The major clinical feature is abortion, other manifestations include retained placenta, orchitis, infertility, reduced milk production and arthropathy. This facultative, intracellular bacterium transmits primarily through uterine discharge, fetal membranes, semen and milk. Brucellosis is readily transmittable to humans as undulate or Malta fevers through contact with abraded skin, eyes or ingestion of unpasteurized dairy products, which poses hazards for production workers and veterinarians.

Infection with *B. abortus* can be determined through detection of antibodies in serum. The IDEXX Brucellosis Serum X2 Ab Test provides:

- Excellent specificity
- 10 plates (strips) for large and small scale testing conditions
- Convenient 10 µl serum sample volume for individual or pool of up to 10 samples.
- Modern monophasic kit format—fast, reliable and simple, with ready-for-use reagents
- Short or overnight sample incubation options
- Adapted to automation—cuts time and costs with high sample throughput
- Can be used with xChek* software for easy data management
Conclusion: IDEXX Brucellosis Serum X2 Ab Test demonstrated 100% specificity in 184 individual bovine serum samples from a brucellosis-free area in Germany.

Sensitivity

Results of IDEXX Brucellosis Serum X2 Ab Test in the European Brucellosis Ring Trial, 2003
National, OIE/FAO and European Community Reference Laboratory for Brucellosis, AFSSA, Maisons-Alfort, France

<table>
<thead>
<tr>
<th>Serum</th>
<th>Dilution</th>
<th>Expected Result</th>
<th>Value %</th>
<th>OD Pos. Control</th>
<th>OD Neg. Control</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIE/ISS weak positive</td>
<td>1/2</td>
<td>++</td>
<td>109</td>
<td>0.9735</td>
<td>0.04</td>
<td>Pos.</td>
</tr>
<tr>
<td>OIE/ISS strong positive</td>
<td>1/6</td>
<td>+</td>
<td>106</td>
<td></td>
<td></td>
<td>Pps.</td>
</tr>
<tr>
<td>OIE/ISS strong positive</td>
<td>1/32</td>
<td>+/-</td>
<td>46</td>
<td></td>
<td></td>
<td>Neg.</td>
</tr>
<tr>
<td>OIE/ISS strong positive</td>
<td>1/64</td>
<td>–</td>
<td>55</td>
<td></td>
<td></td>
<td>Neg.</td>
</tr>
</tbody>
</table>

Kit used: IDEXX Brucellosis Serum X2 Ab Test
Equation: Value % = 100 * (OD - OD neg / OD pos - OD neg)
Cut-off = 80%

Conclusion: IDEXX Brucellosis Serum X2 Ab Test accurately detected weak and strong positive OIE reference according to EU Directives.

For more information about the IDEXX Brucellosis Serum X2 Ab Test, please contact your IDEXX representative or visit idexx.com/brucella.