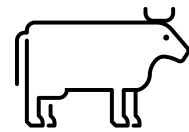
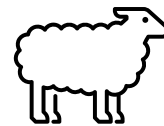


**Laboratory diagnosis  
of infectious diseases of ruminants**



by Real-Time PCR



## Main economically important diseases of ruminants

Viral infections:

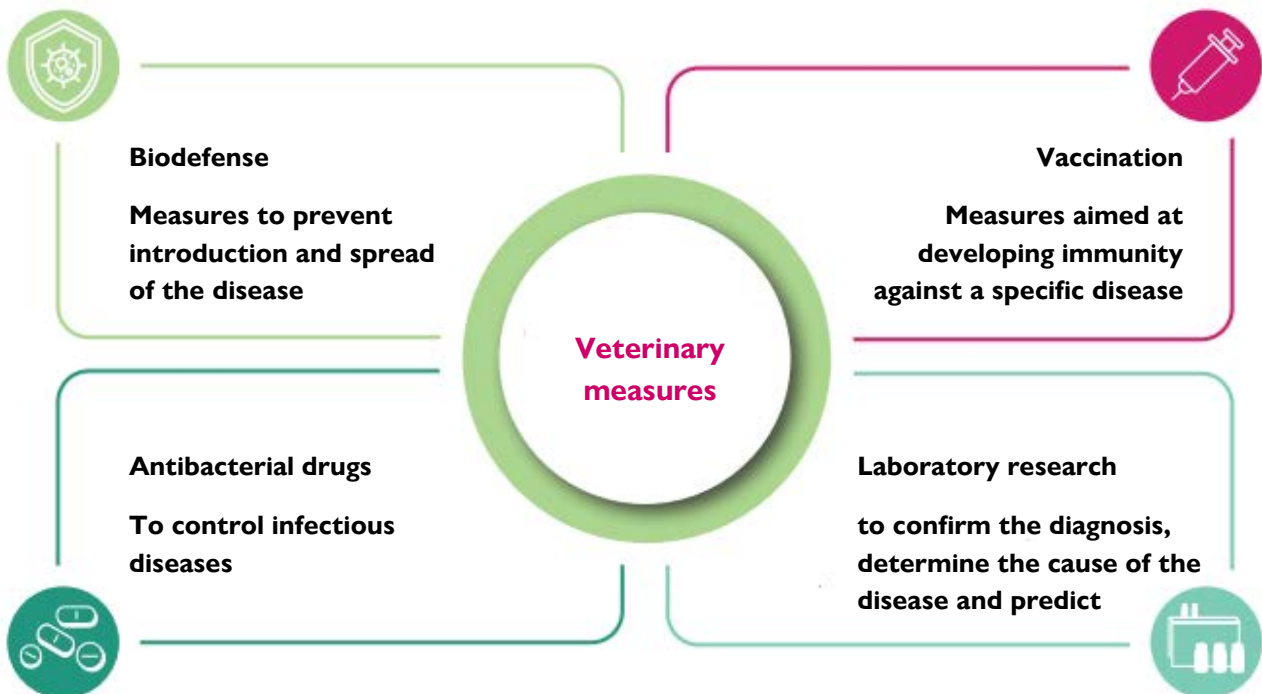
**Caprine Arthritis Encephalitis (CAE)**  
**Bluetongue in cattle and sheep**  
**Viral diarrhea**  
**Herpesvirus infection**  
**Nodular dermatitis**  
**Bovine leukemia**  
**Parainfluenza-3 and others**

Bacterial infections:

**Anaplasmosis**  
**Campylobacteriosis**  
**Mycoplasmosis**  
**Pasteurellosis**  
**Streptococcal infection**  
**Staphylococcal infection**  
**Clostridiosis and others**

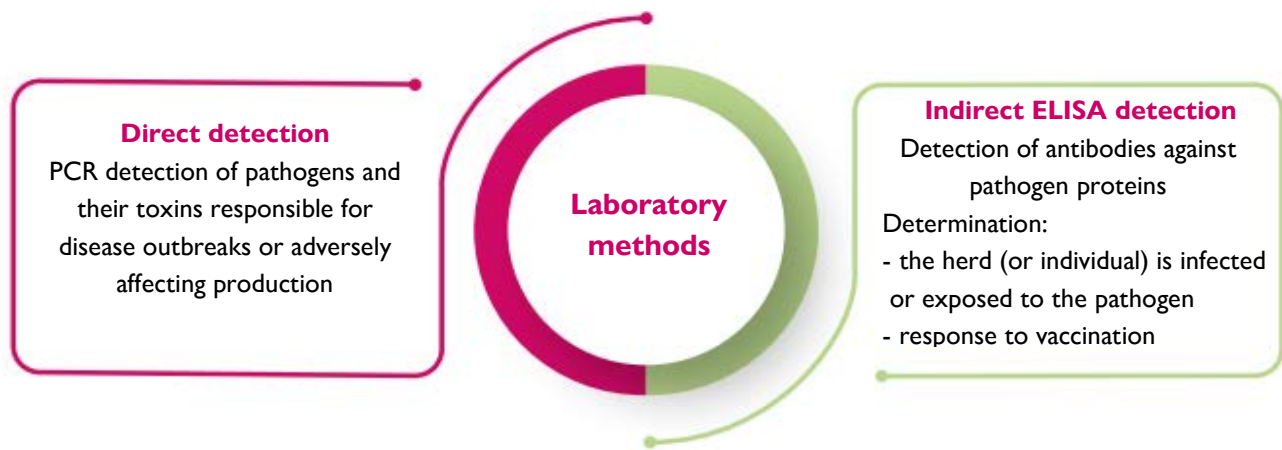


## Methods of controlling infectious diseases

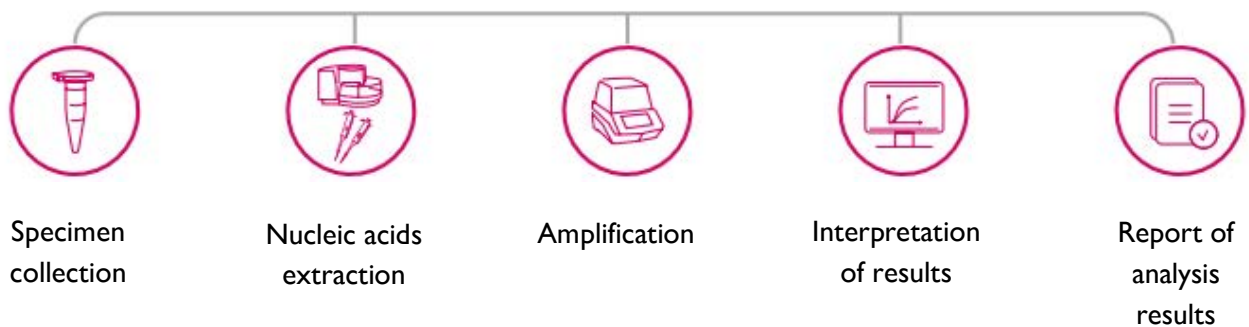


## Laboratory testing for the diagnosis of infectious diseases in ruminants

Laboratory diagnosis of infectious diseases is based both on the evaluation of the body's immune response, which develops as a result of infection (specific antibodies), as well as on the detection and identification of the pathogen's genetic material in biological samples.



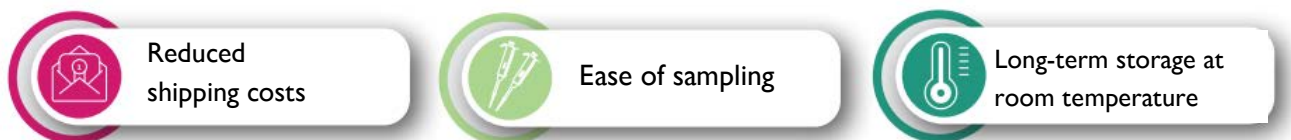
## RealBest-Vet Technology: solution for Real-Time PCR diagnostics



### Specimen collection

#### Specimen collection cards (Cat. No. 5899)

are papers with a test sample application area. The area is impregnated with a solution that promotes cell lysis, denaturation of protein complexes and protection of nucleic acids (NA) from the action of nucleases.



### Isolation of nucleic acids from a sample of biomaterial is possible in both automatic and manual modes



**RealBest DNA-express** (Cat. No. 8899) – the fastest method  
**RealBest-Vet Gamma** (Cat. No. 5876) – wide range of specimens



**RealBest-Vet Alpha** (Cat. No. 5453) – effective NA extraction from whole blood  
**RealBest-Vet Beta** (Cat. No. 5454) – wide range of specimens

### Advantages of RealBest-Vet kits for PCR diagnostics of ruminant infectious diseases:

- ✓ Ready Master Mix for PCR/RT-PCR
- ✓ Multiplex analysis
- ✓ Universal amplification protocol
- ✓ Automated interpretation of results
- ✓ PCR analysis automation capability

## RealBest-Vet diagnostic kits

| Cat.No   | Kit name and description   | Number of tests |
|--|--|-----------------|
| <b>Extraction kits for isolation of nucleic acids</b>  |  |                 |
| 8889   | <b>RealBest DNA-express</b><br>Rapid DNA extraction kit (15 minutes)   | 100             |
| 5453   | <b>RealBest-Vet Alpha</b><br>DNA extraction kit, for use with KingFisher Flex system   | 96<br>(2x48)    |
| 5454   | <b>RealBest-Vet Beta</b><br>DNA and RNA extraction kit, for use with KingFisher Flex system  | 96<br>(2x48)    |
| 5876   | <b>RealBest-Vet Gamma</b><br>DNA and RNA extraction kit, for use with KingFisher Flex system   | 48<br>(4x12)    |
| <b>Goat arthritis-encephalitis (AEC) detection kit</b> |  |                 |
| 5432   | <b>RealBest-Vet DNA CAEV</b><br>Goat arthritis-encephalitis (AEC) virus proviral DNA detection kit   | 96              |
| <b>Mycoplasmosis detection kit</b>                     |  |                 |
| 5855   | <b>RealBest-Vet DNA Mycoplasma bovis</b><br><i>Mycoplasma bovis</i> DNA detection kit  | 96              |
| 5443   | <b>RealBest-Vet DNA Mycoplasma bovis/Mycoplasma bovigenitalium</b><br>Kit for the differential detection of <i>Mycoplasma bovis</i> and <i>Mycoplasma bovigenitalium</i> DNA   | 96              |
| <b>Nodular dermatitis detection kit</b>                |  |                 |
| 5826   | <b>RealBest-Vet DNA LSDV</b><br>Kit for the differential detection of field and vaccine strains of nodular skin disease virus DNA  | 96              |
| <b>Campylobacteriosis detection kit</b>                |  |                 |
| 5856   | <b>RealBest-Vet DNA Campylobacter fetus</b><br><i>Campylobacter fetus</i> DNA detection kit  | 96              |
| 5811   | <b>RealBest-Vet DNA thermophilic campylobacter/Campylobacter fetus</b><br>Kit for the differential detection of thermophilic campylobacter DNA and <i>Campylobacter fetus</i> DNA                                      | 96              |
| <b>Kit for detection of respiratory infections</b>     |  |                 |
| 5457   | <b>RealBest-Vet DNA Pasteurella multocida/Mannheimia haemolytica</b><br>Kit for the differential detection of <i>Pasteurella multocida</i> and <i>Mannheimia haemolytica</i> DNA                                       | 96              |
| 5417   | <b>RealBest-Vet DNA Histophilus somni/Mycoplasma bovis</b><br>Kit for the differential detection of <i>Histophilus somni</i> a <i>Mycoplasma bovis</i> DNA   | 96              |
| 5852   | <b>RealBest-Vet DNA Histophilus somni</b><br><i>Histophilus somni</i> DNA detection kit  | 96              |
| 5873   | <b>RealBest-Vet DNA Histophilus somni/ Pasteurella multocida/Mannheimia haemolytica</b><br>Kit for the differential detection of <i>Histophilus somni</i> , <i>Pasteurella multocida</i> a <i>Mycoplasma bovis</i> DNA | 96              |
| <b>Kit for detection of coronavirus infection</b>      |  |                 |
| 5414   | <b>RealBest-Vet RNA BCoV</b><br>Bovine coronavirus RNA detection kit   | 96              |

| Cat.No   | Kit name and description   | Number of tests |
|--|--|-----------------|
| <b>Anaplasmosis/Q fever detection kit</b>              |  |                 |
| 5416   | <b>RealBest-Vet DNA Anaplasma marginale/Anaplasma phagocytophilum/ Coxiella burnetii</b><br>Kit for the differential detection of <i>Anaplasma marginale</i> , <i>Anaplasma phagocytophilum</i> a <i>Coxiella burnetii</i> DNA | 96              |
| 5459   | <b>RealBest-Vet DNA Anaplasma marginale</b><br><i>Anaplasma marginale</i> DNA detection kit  | 96              |
| 5448   | <b>RealBest-Vet DNA Anaplasma marginale/Anaplasma phagocytophilum</b><br>Kit for the differential detection of <i>Anaplasma marginale</i> a <i>Anaplasma phagocytophilum</i> DNA   | 96              |
| 5806   | <b>RealBest-Vet DNA Coxiella burnetii</b><br><i>Coxiella burnetii</i> DNA detection kit  | 96              |
| <b>Kit for the detection of herpes virus infection</b> |  |                 |
| 5418   | <b>RealBest-Vet DNA BHV-4</b><br>Bovine gammaherpesvirus type 4 DNA detection kit  | 96              |
| 5442   | <b>RealBest-Vet DNA BHV-1</b><br>Bovine herpesvirus type 1 DNA detection kit (infectious rhinotracheitis)  | 96              |
| 5827   | <b>RealBest-Vet DNA BHV-1/BHV-4</b><br>Kt for the differential detection of bovine herpesvirus type 1 and 4  | 96              |
| <b>Kit for the detection of bluetongue</b>             |  |                 |
| 5820   | <b>RealBest-Vet RNA BTV</b><br>Bluetongue virus RNA detection kit  | 96              |
| <b>Viral diarrhea detection kit</b>                    |  |                 |
| 5810   | <b>RealBest-Vet RNA BVDV</b><br>Bovine viral diarrhea virus RNA detection kit  | 96              |
| <b>Crimean-Congo haemorrhagic fever detection kit</b>  |  |                 |
| 5851   | <b>RealBest-Vet RNA CCHFV</b><br>Crimean-Congo hemorrhagic fever virus RNA detection kit   | 96              |
| <b>Bovine leukemia detection kit</b>                   |  |                 |
| 5441   | <b>RealBest-Vet DNA cattle leukemia virus</b><br>Cattle leukemia virus DNA detection kit   | 96              |
| <b>Neosporosis detection kit</b>                       |  |                 |
| 5879   | <b>RealBest-Vet DNA Neospora caninum</b><br><i>Neospora caninum</i> DNA detection kit  | 96              |
| <b>Moraxella DNA detection kit</b>                     |  |                 |
| 5874   | <b>RealBest-Vet DNA Moraxella bovis</b><br><i>Moraxella bovis</i> DNA detection kit  | 96              |
| <b>Parainfluenza-3 RNA Detection Kit</b>               |  |                 |
| 5813   | <b>RealBest-Vet RNA BPIV-3</b><br>Bovine parainfluenza virus type 3 RNA detection kit  | 96              |

| Cat.No   | Kit name and description  | Number of tests |
|--|---|-----------------|
| <b>Kit for the detection of streptococcal infection</b>  |   |                 |
| 5807   | <b>RealBest-Vet DNA Streptococcus uberis/Streptococcus agalactiae</b><br>Kit for the differential detection of <i>Streptococcus uberis</i> a <i>Streptococcus agalactiae</i> DNA                          | 96              |
| <b>Kit for the detection of staphylococcal infection</b> |   |                 |
| 5812   | <b>RealBest-Vet DNA Staphylococcus aureus/methicilin resistance gene (mecA)</b><br>Kit for the differential detection of <i>Staphylococcus aureus</i> DNA and methicillin resistance gene ( <i>mecA</i> ) | 96              |
| <b>Chlamydia infection detection kit</b>                 |   |                 |
| 5816   | <b>RealBest-Vet DNA Chlamydia pecorum</b><br><i>Chlamydia pecorum</i> DNA detection kit   | 96              |

## Types of biospecimen

| Disease<br>(causing agent)  | Biospecimen |                        |                     |                       |                |                                       |       |      |                         |         |
|-----------------------------|-------------|------------------------|---------------------|-----------------------|----------------|---------------------------------------|-------|------|-------------------------|---------|
|                             | Whole blood | Blood serum/<br>plasma | Smears and<br>swabs | Organs and<br>tissues | Synovial fluid | Products or<br>ready-to-cook<br>foods | Sperm | Milk | Blood-sucking<br>insect | Exudate |
| <b>Viral infections</b>     |             |                        |                     |                       |                |                                       |       |      |                         |         |
| AEC                         | •           |                        |                     |                       | •              |                                       |       |      |                         |         |
| Bluetongue                  | •           | •                      |                     | •                     |                |                                       | •     |      | •                       |         |
| Viral diarrhea              | •           |                        | •                   | •                     |                |                                       | •     |      |                         |         |
| Herpesviruses               | •           |                        | •                   | •                     |                |                                       | •     |      |                         |         |
| Nodular dermatitis          | •           |                        | •                   | •                     |                |                                       | •     |      |                         | •       |
| Bovine leukemia             | •           |                        |                     | •                     |                |                                       |       |      |                         |         |
| Parainfluenza - 3           |             | •                      |                     | •                     |                |                                       | •     |      |                         |         |
| <b>Bacterial infections</b> |             |                        |                     |                       |                |                                       |       |      |                         |         |
| Anaplasmosis                | •           |                        |                     |                       |                |                                       |       |      |                         |         |
| Campylobacteriosis          |             |                        |                     | •                     |                | •                                     |       | •    |                         |         |
| Mycoplasmosis               | •           |                        | •                   | •                     |                |                                       |       |      |                         |         |
| Pasteurellosis              | •           |                        | •                   | •                     |                |                                       |       |      |                         |         |
| Streptococcal infection     | •           |                        | •                   | •                     |                |                                       |       | •    |                         |         |
| Staphylococcal<br>infection |             |                        | •                   | •                     |                | •                                     |       | •    |                         |         |
| Clostridiosis               |             |                        | •                   | •                     |                | •                                     |       |      |                         |         |

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