

Product Information BACTIVATE

BACTIVATE is a sterile growth medium to be used as a diagnostic aid for the detection of chronic subclinical uterine infections in mares

Background information

Bacterial infections in the uterus can cause reduce fertility in the mare. Bacteria gain access to the uterus through the cervix, due to poor conformation or during breeding or foaling. Healthy young mares clear bacteria rapidly. In mares with compromised uterine defense mechanisms bacteria can establish an infection in the uterus. If the infection is unnoticed or left untreated, the infection may become chronic. The most commonly isolated bacteria from such conditions are *Streptococcus equi subspecies zooepidemicus* (*Strep zoo*). In the chronically infected mare *Strep zoo* can establish an infection deep within the uterine lining (endometrium). *Strep zoo* appear to lower its metabolic rate during chronic infection, thus complicating diagnostics and antimicrobial treatment dependent of active bacterial growth.

Product description

BACTIVATE is a diagnostic enabling detection of chronic subclinical uterine infections associated with *Strep zoo* in mares. If a chronic infection with *Strep zoo* is present in the endometrium it will be activated when BACTIVATE is instilled in the uterus. Activated *Strep zoo* will thus become available for standard microbial diagnostic procedures.

Intended use

BACTIVATE is to be used in mares with reduced uterine defense mechanisms and in mares suspected of having a chronic subclinical infection. This subgroup of broodmares is characterized by previous uterine infections, accumulation of uterine fluid and reduced fertility. The use of BACTIVATE in other subgroups of broodmares is less likely to have an effect.

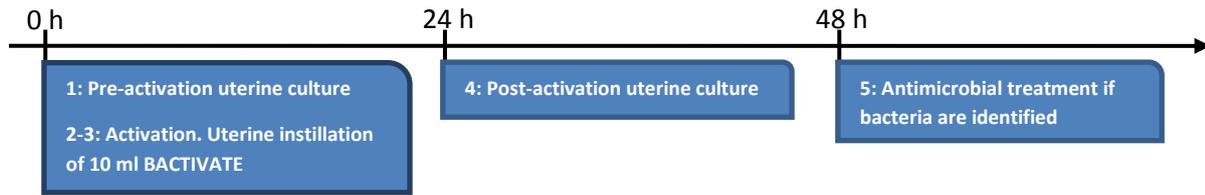
Instructions for use

Bacterial culture, activation and standard endometritis treatment should be conducted when the mare is in estrus, activation ideally taking place in early estrus (moderate uterine edema, largest follicle 25-30 mm) to allow as much of the treatment during estrus as possible.

The following steps should be included:

1. Obtain a pre-activation uterine culture sample. We recommend that the sample be obtained using either a biopsy or a low volume lavage to improve diagnostic sensitivity and specificity
2. Thaw and shake the vial to mix the activating compound before use.
3. Instill BACTIVATE (10 ml) in the uterus of the mare using an insemination pipette and standard insemination technique.
4. Obtain a post-activation uterine culture sample 24 hours after instillation of BACTIVATE.
5. Begin appropriate antimicrobial therapy based on the results of the post-activation culture sample.

Timeline culture, activation and potential treatment



When *Strep zoo* is isolated only after activation, or if bacteria are increased in numbers following activation, the mare is chronically infected and local and systemic antimicrobial therapy should be initiated. If intrauterine fluid and secretions are present uterine lavage, with or without mucolytic additives, in conjunction with ecboic treatment to help clear/clean the uterus may also be indicated.

Bacterial cultures are performed both before and after activation because some mares may be culture positive for *E. coli* before activation, but only culture positive for *Strep zoo* after activation. If only a post activation sample is recovered, important information related to treatment could be missed.

Please note that activation by itself, induced by uterine infusion of BACTIVATE in a chronically infected mare, is not a treatment for chronic endometritis in the mare, but a diagnostic aid.

Precautions

Breeding in the same estrus cycle as the mare is activated is not recommended. When a non-self compound is present in the uterus, inflammation will be initiated. This is also the case when BACTIVATE is instilled in the uterus. Because uterine inflammation has a negative impact on fertility, breeding should be postponed to the following cycle.

If BACTIVATE is instilled in the uterus of a mare chronically infected with *Strep zoo*, the subclinical inactive infection will be activated without systemic effects on the mare like fever, in appetite or discomfort. If the mare is heavily infected marked clinical signs of endometritis will be present (uterine discharge and accumulation of intrauterine fluid/exudates).

BACTIVATE has been tested in barren mares, with a fully involuted uterus. We do not recommend the use of BACTIVATE in mares post foaling until full uterine involution has taken place.

References

Petersen, M. R., Nielsen, J. M., Lehn-Jensen, H. and Bojesen, A. M. (2009). *Streptococcus equi* subspecies zooepidemicus resides deep in the chronically infected endometrium of mares, *Clinical Theriogenology* 1, 393-409.

Petersen, M. R., Lu, K., Christoffersen, M., Nielsen, J. M., Troedsson, M.H.T. and Bojesen, A. M (2013). Impact of activation and subsequent antimicrobial treatment of dormant endometrial streptococci in the Thoroughbre problem mare – a descriptive field study, Abstract and Poster, Society for Theriogenology Annual Meeting, Louisville, Kentucky

Further information

Information describing research done to establish safety and efficacy of the diagnostic aid of BACTIVATE is available upon request.

Company

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Storage information

The product should be stored at -18 °C. Thaw the product before use. Do not exceed 37°C.