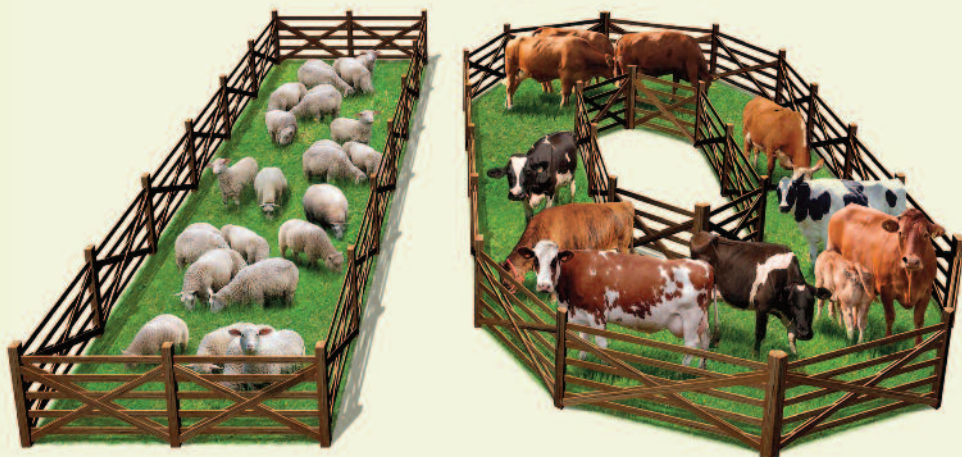
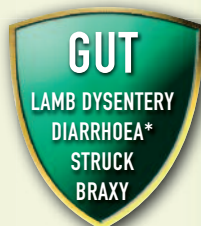
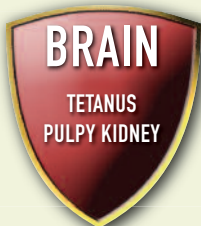


TRIBOVAX[®]10



Protects cattle & sheep
against 10 clostridial diseases

No other vaccine does more to shield your animals
against clostridial diseases.



*C. perfringens Type A causes severe diarrhoea in cattle and sheep

Clostridial diseases: a constant threat to cattle and sheep

Clostridial pathogens are ubiquitous in every part of the world, present both in the environment and in the normal intestinal flora of the animal. Under certain conditions they will proliferate, releasing toxins and proteolytic enzymes that, in the majority of cases, have deadly consequences.

The 10 deadly names in clostridial diseases

1-4 *C. perfringens* type A, B, C and D

C. perfringens is the most widespread clostridium bacteria. All four types can be found in the intestinal tract of animals but only type A strains are present in the soil.

Type A: Yellow Lamb Disease - Young lambs and calves at risk.

Type B: Lamb Dysentery Haemorrhagic Enteritis - Young lambs and calves at risk.

Type C: Struck and Necrotic Enteritis - Adult sheep and calves.

Type D: Pulpy Kidney - All ages.

5 *C. chauvoei*

Responsible for the disease known as "blackleg", *C. chauvoei* has appeared to be geographically clustered for consecutive years. While

animals of all ages may be infected the disease tends to occur in those from four months to two years of age.

6 *C. septicum*

Considered the primary course of Malignant Oedema, it is also the principle cause of Braxy in sheep. The disease tends to occur in older animals and often affects yearling sheep after the ingestion of frosted food.

7 *C. haemolyticum*

The cause of bacillary haemoglobinuria, also known as "red water", *C. haemolyticum* infects cattle and sheep after ingestion of spores via contaminated food and water. The organism has a predilection for hepatic tissue, thriving in the medium produced when liver cells are destroyed by flukes, plant toxins or other agents.

8 *C. novyi* type B

Black disease or infectious necrotic hepatitis caused by *C. novyi type B* infects cattle, sheep and pigs. Most animals affected by this organism will be found dead with no other clinical signs.

9 *C. sordellii*

As one of the most virulent clostridial pathogens, *C. sordellii* has been associated with sudden death in 6-12 month old lambs and in 1-2 year old cattle. The bacteria has also been identified as causing abomasitis in young lambs 3-10 weeks of age.

10 *C. tetani*

Tetanus can occur in livestock of any age. The bacteria often gains access to the animal via a wound in the skin, releasing a deadly neurotoxin.

Towards a new-generation clostridial vaccine

Clostridial organisms are probably the oldest known pathogens affecting livestock. Understanding of these pathogens has increased over the years in large part due to the development of better diagnostic methods. The negative effects of *C. sordellii* and *C. perfringens* type A have been identified only in the last years. These recent findings on the role of certain clostridium pathogens in disease outbreaks indicated the need for the development of a new generation of clostridial vaccines that would include all the relevant organisms.

Tribovax 10: a new era in broader protection

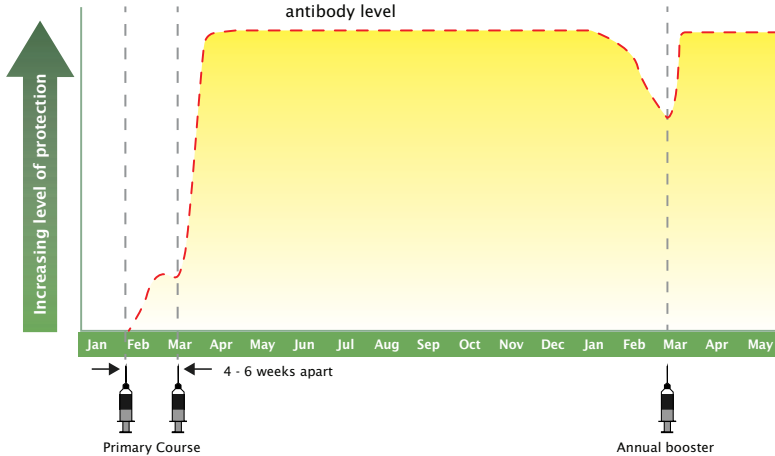
Tribovax 10 represents a breakthrough in clostridial vaccination. By including 10 key clostridial pathogens, Tribovax 10 provides unsurpassed coverage against clostridial diseases. The combination of the most relevant clostridial pathogens with the latest vaccine production technologies has resulted in a superior product that addresses the needs of both cattle and sheep producers.



Tribovax 10 - Two doses are essential for 12 months protection

Cattle and sheep with unknown colostrum status can be vaccinated from 2 weeks of age. It is essential to vaccinate calves and lambs twice 4-6 weeks apart with Tribovax 10 to provide up to 12 months protection against clostridial diseases. If cattle and sheep are vaccinated with only one primary dose they will be susceptible to clostridial diseases 6 weeks after this first dose.

Antibody levels after Primary (2 doses) and Booster Vaccinations





Long-lasting protection

Vaccination with Tribovax 10 induces an active immunity that protects the vaccinated animal for a period of up to 12 months. The long duration of immunity of Tribovax 10 ensures that vaccinated animals are protected all the year round and simplifies management procedures on the farm. Lambs and calves can be vaccinated from as young as 2 weeks of age.

Passive immunity

Vaccinating pregnant animals during the 2-6 weeks prior to parturition

transfers immunity via the colostrum to the newborn animals shortly after birth and will protect the young animals for a period of 8-12 weeks.

Tribovax 10 has been proven efficacious in the presence of maternally derived antibodies. It is recommended that animals with unknown colostrum status be vaccinated from 2 weeks of age. Those animals from vaccinated mothers and with confirmed colostrum intake should be vaccinated at 8-12 weeks old.

Making vaccination easier

Tribovax 10 is proof that the most thorough protection against clostridial disease can also be thoroughly easy to administer. Tribovax 10 simplifies operations thanks to its year-round, long-lasting protection, suitability for early vaccination and low dose volume.

Protection for young to mature animals

Defining a farm's clostridial vaccination programme requires knowledge of the main risk periods (feeding changes, access to contaminated pasture, certain management procedures, etc.) and an understanding of the immune system of the animals concerned.

The first weeks of life of an animal are especially risky for the development of certain clostridial diseases. It is essential to protect animals at this moment. Older animals can also be highly vulnerable to clostridial diseases.



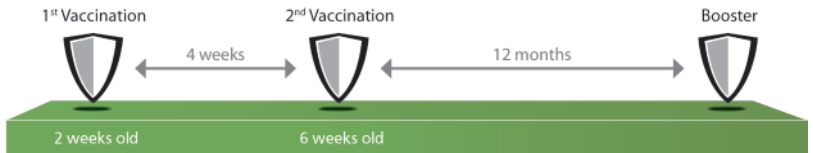


Low dose volume

The sophisticated manufacturing process used in Tribovax 10 enables a low dose volume for both cattle and sheep. A lower dose volume significantly reduces local reactions and discomfort in vaccinated animals.

The dose volume for sheep is 1 ml per dose and 2 ml for cattle. The volume does not change with the age or size of the animal, making it considerably easier to plan the flock/herd vaccination.

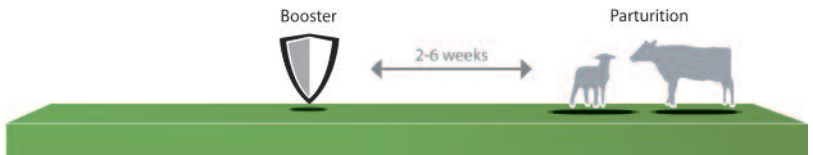
Lamb and calves from unvaccinated ewe/cow



Lamb and calf from vaccinated ewe/cow



Pregnant ewe/cow



No other vaccine does more to shield your animals against clostridial diseases.



10 POINTS for complete protection

- Broad protection against 10 clostridial diseases
- 12 months duration of active immunity
- 12 weeks of duration of passive immunity
- Low dose volume
- Simple vaccination protocol
- It can be used from 2 weeks of age
- Efficacious in the presence of maternally derived antibodies
- For cattle and sheep
- Two doses are necessary to complete the primary course
- From the clostridial vaccine experts

Product Information:

Tribovax 10 Suspension for injection for cattle and sheep contains per ml potency values: *C. perfringens* type A \square toxoid ≥ 0.5 U, *C. perfringens* type B & C \square toxoid ≥ 18.2 IU, *C. perfringens* type D and \square toxoid ≥ 5.3 IU, *C. chauvoei* whole culture ≥ 90 % protection, *C. novyi* toxoid ≥ 3.8 IU, *C. septicum* toxoid ≥ 4.6 IU, *C. tetani* toxoid ≥ 4.9 IU, *C. sordellii* toxoid ≥ 4.4 U, *C. haemolyticum* toxoid ≥ 17.4 U.

Warnings and precautions: The effectiveness of the vaccine in providing passive immunity to young lambs and calves depends on these animals ingesting adequate amounts of colostrum on the first day of life. Clinical trials have demonstrated that the presence of maternal antibodies (MDA), particularly against *C. tetani*, *C. novyi* type B, and *C. perfringens* type A (calves only), *C. chauvoei* (lambs only) and *C. perfringens* type D may reduce the antibody response to vaccination in young lambs and calves. Therefore, to ensure an optimal response in young animals with high levels of MDA, the primary vaccination should be delayed until the levels wane (which is after about 8-12 weeks of age). In the event of an anaphylactic reaction appropriate treatment such as adrenaline should be administered without delay. Do not vaccinate sick or immunodeficient animals. **User warnings:** In the case of accidental self-injection, encourage bleeding and wash the area immediately with water. If a local reaction develops, seek medical advice showing the package insert or the label to the physician. **Adverse reactions:** 75 – 100 % of animals vaccinated with Tribovax 10 may experience reactions to vaccination. Most commonly reported adverse reactions are localised swelling or induration at the injection site but may also include mild hyperthermia, abscess or other reaction in the underlying tissues at the injection site. Swelling at the injection site occurs in the majority of animals. This may reach up to a mean value of 6 cm in sheep and 15 cm diameter in cattle; occasionally reactions of up to 25 cm diameter may be seen in cattle. Most local reactions resolve within 3-6 weeks in sheep and in less than 10 weeks in cattle, but may persist longer in a minority of animals. An abscess may develop in some animals. Vaccination may give rise to reactions in the underlying tissues at the injection site. Skin discolouration at the injection site (which returns to normal as the local reaction resolves) may occur. Localised pain at the injection site for 1-2 days post first vaccination may occur. The local reactions do not affect the general health, demeanour, and feeding or weight gain of the animals. **Use during pregnancy and lactation:** No side effects other than those described above were seen when the vaccine was used in sheep and cattle between 8 and 2 weeks prior to parturition. In the absence of specific data, the use of the vaccine is not recommended during the first or second third of pregnancy. Avoid stress in pregnant ewes and cows. **Interaction with other medicinal products and other forms of interaction:** No information is available on the compatibility of this vaccine with any other. Therefore the safety and efficacy of this product when used with any other (either when used on the same day or at different times) has not been demonstrated.

Overdose: In calves and lambs, local reactions may increase slightly if twice the recommended dose is administered (see above). **Disposal:** Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.

Do not mix with any other vaccine, immunological and veterinary medicinal products.

Legal category: **[LM]**

Prior to first time use on a farm, it is strongly recommended that the advice of a veterinary practitioner is sought.

For further information, please contact MSD Animal Health, Red Oak North, South County Business Park, Leopardstown, Dublin 18, Ireland. Tel: +353(0)1 2970220. E-mail: vet-support.ie@merck.com Website: www.msd-animal-health.ie