

ALLO-STEM *frost*®



Allogeneic stem cells

for tendon and ligament repair

in horses

A PRODUCT OF :
FAT
STEM

The product

Allo-Stem frost® is an allogeneic cryopreserved stem cell isolate derived from donor equine adipose-derived stem cells for the treatment of tendon and ligament problems in horses. Treatment is advised in the acute stadium. The advantages of Allo-stem frost® are:

- It can be immediately used at diagnosis (stored in LN2 at -196°C)
- Cost-effective (ordered per pack of three samples)
- No need for a fat biopsy from the horse to be treated

Tendon and ligament injuries in horses

Racing statistics indicate these injuries are often a career-ending event in sport horses. Tendon and ligaments are composed of fiber-like connective tissue elements that are carefully aligned and grouped together to form large parallel fiber bundle groups. Tendon and ligaments become injured by trauma or chronic over weight bearing resulting in tearing/rupturing of the connective tissue elements. Natural healing of the tissues is often slow and of poor quality and results in formation of stiff, immobile and inferior scar tissue, long lay-offs and a predisposition to re-injury.

Mode of action

Equine adipose-derived stem cells are adult multipotent stem cells that can differentiate into specialized cells and thereby are able to regenerate/form tissues such as cartilage, bone, tendon and muscle. These cells reduce fibrosis (scar) formation. They exert trophic, immunosuppressive, anti-inflammatory and anti-apoptotic effects and activate the body's own stem/progenitor cells, modulating the local environment and thereby stimulating tissue regeneration.

How to use

The stem cell isolate Allo Stem frost® is shipped (per three samples) in advance to the veterinary clinic for storage in liquid N2. Samples can be stored up to four years before use.

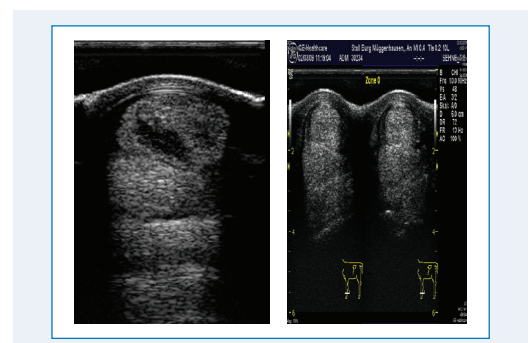
When needed, a sample is quickly thawed at 37°C. The product is provided as a one-time injectable suspension (1 ml). The product is injected under local anesthesia (facultative) and guided by ultrasonography into the lesion.

After injection, routinely bandage the joint if possible for a few days. A revalidation period of at least 6 months is essential and will improve the healing quality.

Results

- Decreased inflammation and pain
- Improved mobility (decreased lameness)
- Long term regeneration
- Increases the rate of return to function
- Up to 80 % less re-injuries

Result of a treatment before (left) and after 8 weeks (right).



ARTI-STEM *frost*®



Allogeneic stem cells

for degenerative joint disease

in horses



The product

Arti-Stem frost® is an allogeneic cryopreserved stem cell isolate derived from equine adipose-derived stem cells with addition of different immunomodulatory factors for horses with degenerative joint disease, cartilage tears suffering from chronic lameness and joint swelling. Treatment does not reverse permanent damage (severe cartilage loss) as seen in severe osteoarthritis (OA). The advantages of Arti-stem frost® are:

- It can be immediately used at diagnosis stored in Liquid N2 (-196°C)
- Cost-effective (per three doses)
- No need for a fat biopsy from the horse
- It contains anti-inflammatory IL-1R antagonist (involved in synovitis)

Joint and cartilage problems in horses

Damaged joints initiates a vicious cycle of inflammation, pain and degeneration and is a critical component of joint stability and comfort. Joint problems are responsible for more than 60% of lameness cases in (sport) horses. Anti-inflammatory drugs and corticosteroid injections are needed to control the discomfort, but in more advanced cases OA and bone defects can develop. Lameness and joint swelling not responding to routine treatments can receive this point of care stem cell therapy.

Mode of action

Equine adipose-derived stem cells are adult multipotent stem cells that can differentiate into specialized cells and thereby are able to regenerate/form tissues. Cells exert trophic, immunosuppressive, anti-inflammatory (counteracting IL1-R and activation of suppressive cytokines such as IL10) and anti-apoptotic effects and activate the body's own stem/progenitor cells, modulating the local environment and thereby stimulating tissue regeneration.

How to use

The stem cell isolate Arti Stem frost® is shipped in frozen condition to the veterinary clinic for storage in liquid N2. Samples can be stored for years. After diagnosis a sample is quickly thawed at 37°C : a one-time injectable suspension (2 ml) is injected under local anesthesia into the joint.

After injection, routinely bandage of the joint (if possible) and a revalidation period is essential and will improve the healing quality. Therefore subsequent radiographs and an ultrasound is advised.

Results

- Decreased inflammation (swelling) and pain
- Improved mobility (decreased lameness)
- Increases the rate of return to function
- No further medication required

Treatment of a meniscus tear before and after (6 months).

(Reference: Braeutigam K. Point-of-Care adipose derived stem cell therapy promising in the treatment degenerative joint disease and meniscus tears)

