



 IRAP-based therapy

 for mild to moderate osteoarthritis

 in horses



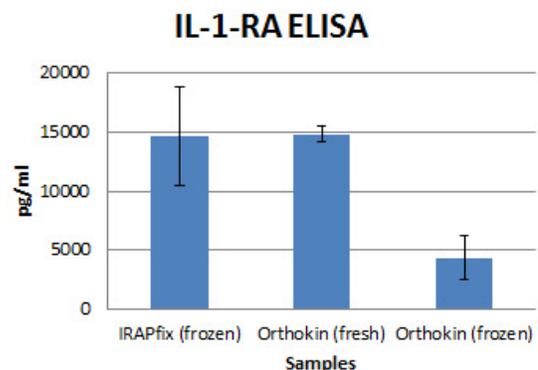
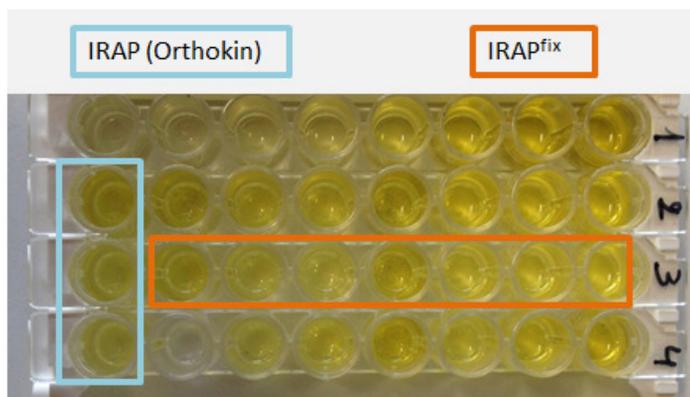
The Product

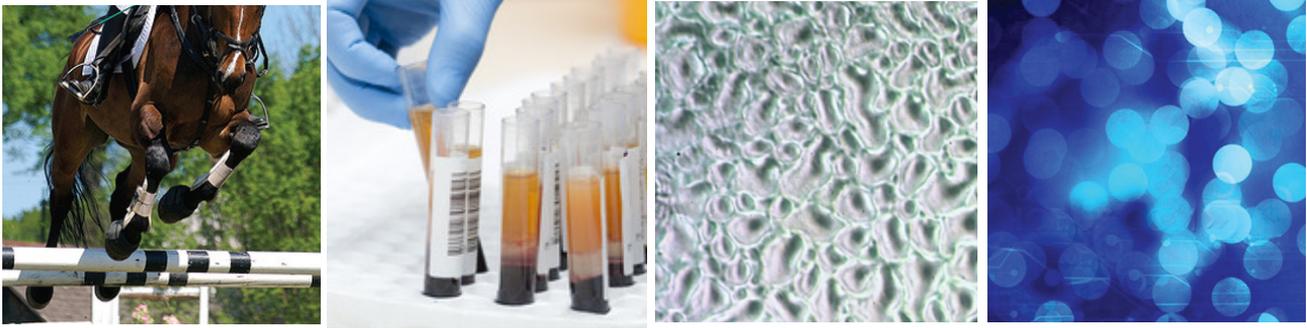
Degenerative joint disease (DJD), or more commonly osteoarthritis (OA), is one of the most common causes of lameness in athletic horses. Clinical signs as poor performance, stiffness, joint swelling and inflammation are the result of synovitis and progressive cartilage damage in the joint. **IRAPfix** is a conditioned plasma solution containing a supra-physiologic concentration of the anti-inflammatory protein IL-1RA and other major equine bioactive trophic factors. **IRAPfix** offers a safe, easy-to-use and effective pharmaceutical for recent and acute cartilage injuries in which pain and inflammation persists despite use of traditional rest, controlled exercise and NSAID's.

Mode of action

Damage to the cartilage initiates a vicious cycle of pain and inflammation, and increased inflammatory cytokine production such as Interleukin-1 (IL-1). IL-1 propagates synovitis and cartilage degeneration. IRAP (Interleukin-1 Receptor Antagonist Protein) is an anti-inflammatory protein that blocks the destructive effects of IL-1. When **IRAPfix** is injected into the joint, the IL-1-RA will bind the IL-1 receptor thereby preventing binding of IL-1 and reducing joint pain and inflammation, thereby slowing down the progression of OA. Additional growth factors access and augment the natural healing process by decreasing the inflammatory reaction, neo-angiogenesis, recruiting stem and progenitor cells, and stimulating proliferation and preventing apoptosis of resident cells.

IL-1-RA concentration in **IRAPfix** is equally as high as in fresh commercial IRAP samples.





How to use

The product is stored in multiple aliquots and kept frozen until later use. **IRAP^{fix}** is supplied in 2.5 ml volume syringes for intra-articular injection. The procedure is carried out in the standing horse under sedation.

Treatment should be repeated three times every 7-10 days.

IRAP^{ix} is supplied in a box with 9 aliquots. It can be stored at -20°C (or lower) for four months (up to one year).

Please notice that **IRAP^{fix}** is merely a therapeutic treatment and not a long-term regenerative product. It cannot serve to reverse permanent damage commonly seen in arthritic joints, but can help to slow down progression of the disease. In case of advanced (severe and chronic) osteoarthritis (OA) or other DJD, we recommend the use of stem cell therapy.



Results

Implantation of **IRAP^{fix}** into joints associated with lameness result in a significant improvement in mobility by decreased inflammation and joint swelling. Horses most likely to benefit are those with synovitis and recent mild to moderate OA.

Rehabilitation

After injection, we routinely bandage the joint if possible for a few days, and the horse should be kept on 3 days of strict stall rest, followed by 10 days of short-period hand-walking. Once the course of injections is completed, horses should receive one week of ridden walk exercise, followed by one week of ridden walk and trot.

IRAP^{fix}®, an effective treatment for synovitis and slowing down the progression of mild to moderate osteoarthritis in horses. IRAP^{fix}® has been developed by Fat-Stem Laboratories and is marketed through its partners and is used in different EU countries.