APVMA Approval No. 87359 (Australia)

Zycan® Injection

For treatment of lameness due to degenerative aseptic joint disease in horses.

Active Constituent

Polysulfated Glycosaminoglycan 100 mg/mL

Pack Size

7 x 5mL Vials per carton

The first registered Adequan® generic.

Indications

Zycan is a Disease Modifying Osteoarthritis Drug (DMOAD) for the treatment and prevention of clinical signs attributable to degenerative and/or traumatic aseptic joint disease in horses. DMOADs are intended to prevent, retard or reverse the morphologic cartilaginous lesions associated with degenerative joint disease (DJD).

PSGAGs, such as Zycan have been advocated for the (i) preventative treatment of joint disease (ii) chronic joint maintenance programs and (iii) post-operative care of horses returning to training following joint surgery.

Pharmacology

Zycan is a semi-synthetic polysulfated glycosaminoglycan (PSGAG) and is physiologically similar to the natural mucopolysaccharides found in joint cartilage.

The low molecular weight of Zycan facilitates the distribution of the PSGAG from the bloodstream to the synovial fluid. Distribution from the synovial fluid to the cartilage then takes place by diffusion. PSGAG is deposited in all layers of articular cartilage and is preferentially taken up by osteoarthritic cartilage. When administered intramuscularly, synovial levels exceed serum levels, peak in 48 hours and persist for up to 96 hours. The latter is the rationale behind every fourth day dosing.

PSGAGs exert their chondroprotective effects by inhibiting the detrimental effects of cytokines and PG's on cartilage and connective tissue, reducing proteoglycan breakdown, stimulating HA synthesis and enhancing the production of glycosaminoglycan, proteoglycan and collagen.

In multiple studies, PSGAGs have been shown to:

- Inhibit various degradative proteolytic enzymes, including glycanohydrolases, glycosidases and MMPs.
- Inhibit MMP-3 more effectively than phenylbutazone, flunixin, betamethasone and HA.
- Increase collagen and GAG synthesis in articular cartilage explants and cell culture.

Randlab Australia Pty Ltd
71 Milperra Road Revesby, NSW 2212, AUSTRALIA Phone: +612 9728 3505 Fax: +612 9728 4352 Website: randlab.com

APVMA Approval No. 87359 (Australia)

- Stimulate synthesis of HA by synoviocytes, restoring synovial fluid viscosity.
- Inhibit PGE synthesis and the influx of leukocytes into inflammatory sites.
- Inhibit the production of superoxide radicals and pro-inflammatory IL-1.
- Increases the synthesis of proteoglycans by acting as a precursor.
- Decrease articular fibrillation and erosion.
- Decreased chondrocyte death.
- No change in partial or full thickness articular cartilage lesions has been reported.

PSGAG (250mg) has also been used intra-articularly for the treatment of acute synovitis, including post-arthroscopy (McIllwraith 2016).

Precautions

IM PSGAG administration may occasionally result in transient localised swelling and discomfort at the injection site. As PSGAGs have heparinoid activity, do not administer when a pre-existent tendency to haemorrhage or increased coagulation time is expected. Do not administer within 24 hours of surgery.

IA PSGAG administration may cause a post-injection inflammation (joint pain, effusion, swelling and lameness) secondary to sensitivity reactions. A slightly increased risk of joint infections following IA injection of 250mg PSGAG has been reported compared with corticosteroids + HA.

Zycan should not be used in place of other therapies (such as joint flushes and antibiotics) when joint infection is present or suspected.

Safety in pregnant or lactating animals or in foals has not been established. Use with caution in these groups.

Caution should be taken when administered to horses with advanced renal or hepatic disease.

Do not mix Zycan with other drugs or solvents.

Dosage and Administration

Intra-muscular injection: 500mg (5mL) per 500kg horse, repeated every 4th day for 7 injections (ie 28 days). Weekly injections have also been shown to be effective.

The series may be repeated as needed upon recurrence of the clinical signs of DJD and associated lameness.