

carton

**PRESCRIPTION ANIMAL REMEDY  
KEEP OUT OF REACH OF CHILDREN  
FOR ANIMAL TREATMENT ONLY**

**SYNOVAN™  
Injection for Dogs**

**ACTIVE CONSTITUENTS:**  
PENTOSAN POLYSULFATE SODIUM  
100 mg/mL  
ACETYL GLUCOSAMINE  
160 mg/mL

**AN AID IN THE TREATMENT OF NON-  
INFECTIOUS, INFLAMMATORY JOINT  
DISEASE IN DOGS.**

[10 mL, 20 mL, 6 X 20 mL]

**READ THE ENCLOSED LEAFLET  
BEFORE USING THIS PRODUCT.**

**DIRECTIONS FOR USE:**  
Contraindicated for use in dogs with clotting defects, traumatic haemorrhage, infection, liver/kidney failure, or within 2 days of surgery.

Safety studies on the product in dogs have been done at up to 3x recommended dose rate, at weekly intervals for six weeks. Safety studies have not been carried out for longer term use. Safety studies have not been carried out in pregnant, breeding or lactating animals. Use of the product in these groups of animals is not recommended. A dose dependent increase in activated partial thromboplastin time (aPTT) was seen during the safety trials but levels returned to normal within 24 hours post treatment. The prescribing veterinarian should consider this where the patient may have suspected or diagnosed disorders that may affect haemostasis, or have concurrent medications that affect haemostasis. There was no significant difference between pre-trial and post-trial aPTT levels.

Administer by intramuscular or subcutaneous injection.

**DOSE RATE:**  
Use the contents of the vial within 3 months of initial broaching, and discard any unused portion.

0.3 mL/10 kg (3 mg/kg Pentosan polysulfate sodium, 4.8 mg/kg Acetyl-Glucosamine) on four occasions with an interval of 5-7 days between injections.

**FIRST AID:** If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131126; NZ 0800 764766).

**Dispose** of empty container and outer packaging by wrapping with paper and putting in garbage.

Store below 25°C (Air conditioning). Do not freeze. Protect from Light.

B:  
Exp :

APVMA Approval No.: 63093/55738

Product of Australia

Ceva Animal Health Pty Ltd  
11 Moores Rd  
Glenorie NSW 2157  
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Tel: (61) 2 9652 7000  
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TM Synovan is a trademark of Ceva Animal Health Pty Ltd, Australia  
Australian Patent Number: 747595  
NZ Patent Number: 500025



RLP  
Approved



*Immediate container (vial) label*

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[10 mL, 20 mL]

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## SYNOVAN™ Injection for Dogs

Each mL contains: PENTOSAN POLYSULFATE SODIUM 100 mg and ACETYL GLUCOSAMINE 160 mg  
**DESCRIPTION** SYNOVAN Injection for Dogs is a sterile solution presented in a 20 mL multi-dose vial, formulated as an aid in the treatment of non-infectious, inflammatory joint disease in dogs.

### PHARMACOLOGY

Pentosan polysulfate is a semi-synthetic polysaccharide polymer which possesses anti-inflammatory, anti-arthritis and chondroprotective properties. These beneficial effects arise from:

- Direct anti-inflammatory activity;
- Inhibition of neutrophil migration into joints;
- Stimulation of hyaluronic acid synthesis by synovial fibroblasts which results in a marked increase in synovial volume and viscosity;
- Stimulation of chondrocytes and the biosynthesis of proteoglycans;
- Strong fibrinolytic activity which improves the circulation of subchondral bone and peri-articular structures.

N-Acetyl-Glucosamine (NAG) is a monosaccharide derivative of glucose and is a principal component of glycosaminoglycans (GAGs).

In an experimental model of osteoarthritis in rabbits, intramuscular N-Acetyl Glucosamine (NAG) resulted in mildly reduced synovitis compared with placebo (Shikhman *et al.* 2005).

Laboratory studies (2009) conducted on chondrocytes have shown that pentosan polysulfate as well as the combination of pentosan polysulfate and glucosamine reduce gene expression of cyclooxygenase-II (COX 2) and production of prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) and nitric oxide. COX 2, PGE<sub>2</sub> and nitric oxide are anti-inflammatory mediators. The combination of pentosan polysulfate and glucosamine showed greater reduction of these activities than pentosan alone (Data on file, available on request).

**INDICATIONS:** An aid in the treatment of non-infectious, inflammatory joint disease in dogs.

- Osteo-arthritis - especially in conditions affecting multiple joints;
- Osteo-chondrosis dissecans;
- Traumatic joint and peri-articular inflammation in dogs.

### DIRECTIONS FOR USE

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Australian Patent Number: 747595

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Product of Australia

Registered to:

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**REFERENCES:**

Shikhman AR, Amiel D, D'Lima D, Hwang SB, Hu C, Xu A, Hashimoto S, Kobayashi K, Sasho T and Lotz MK. (2005) Chondroprotective activity of N-acetylglucosamine in rabbits with experimental osteoarthritis. *Ann Rheum Dis.* **64**, 89-94.

Data on File (2009) Nutramax Laboratories, Edgewood, Maryland, USA.