



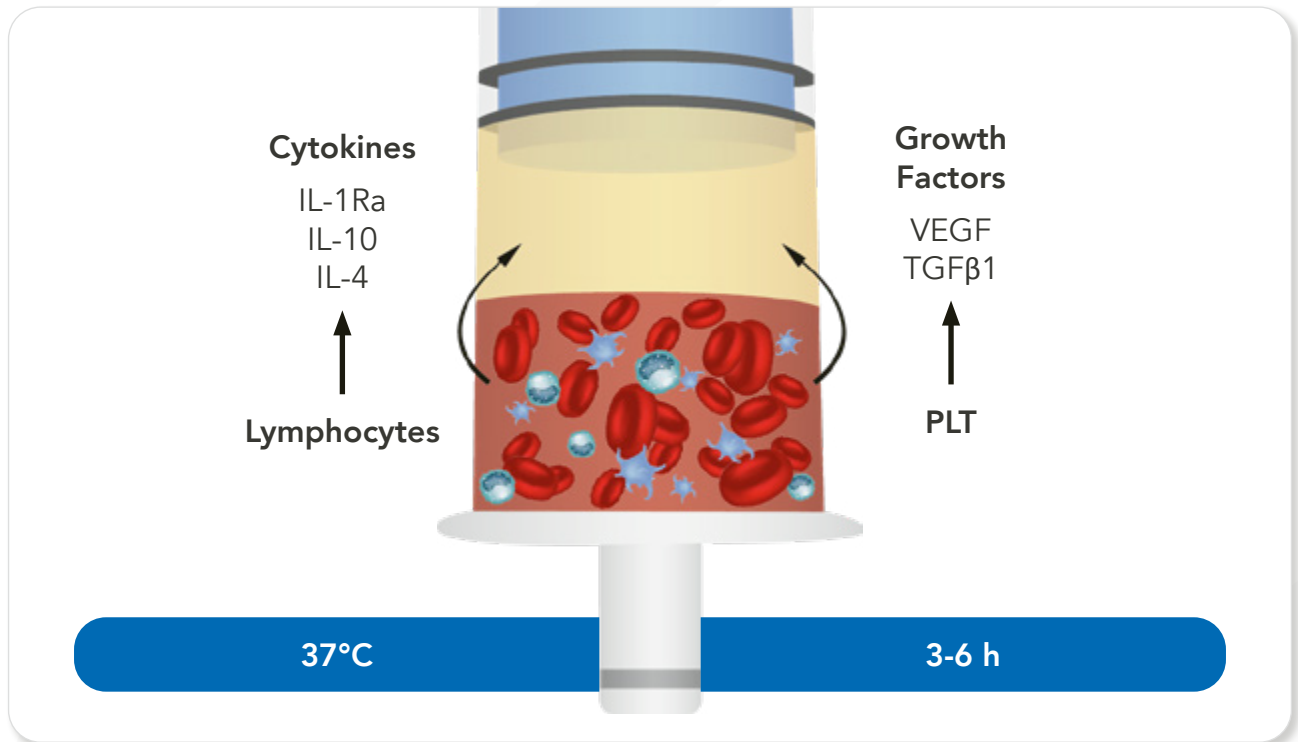
Autologous Conditioned Serum (ACS) processing system



For an unmatched Osteoarthritis therapy for dogs

Biophysical stimulation of whole blood

Orthogen® Device vet creates a defined environment for extracorporeal stimulation of venous blood. Standardised conditions stimulate the blood cells to produce and secrete beneficial factors ^(1, 2). This secretome is harvested together with naturally present serum proteins in approximately 6 mL amount of sterile filtered ACS.



ACS profile ^(1, 2)

Content		Function
Cytokines	IL-1Ra	Anti-inflammatory
	IL-10	
	IL-4	
Growth Factors	IGF-1	Cellular growth
	FGF-2	
	TGF-β1	Anti-inflammatory
	VEGF	Angiogenesis

Clinical use of ACS

Indications

- Osteoarthritis
- Synovitis

Characteristics

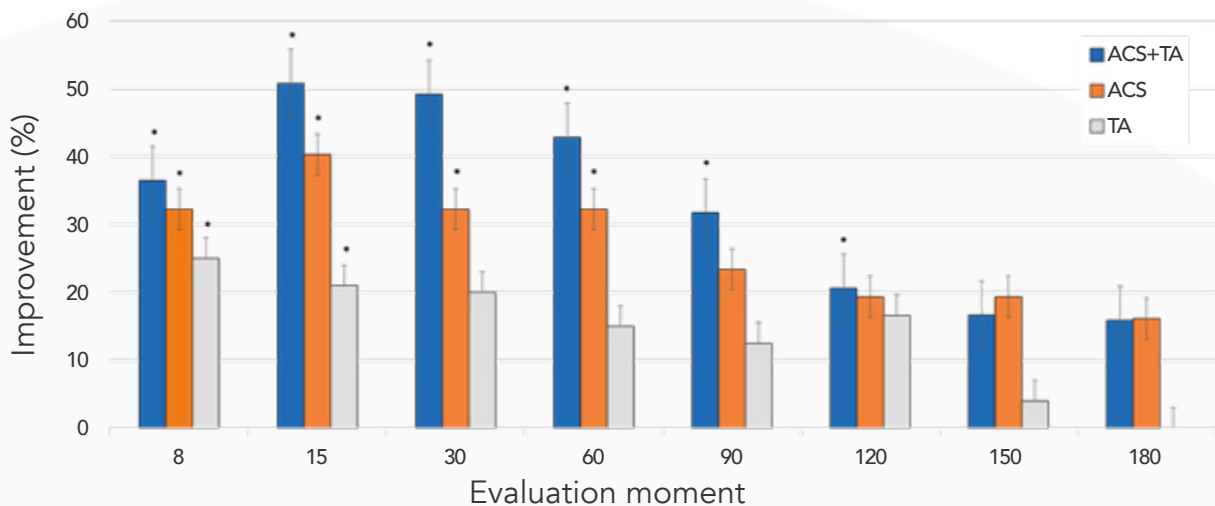
- Anti-inflammatory
- Regenerative

Patients benefit

- Long-term effects
- Improved quality of life

Intra-articular injection of ACS and its combined use with Triamcinolone (TA) were associated with significant pain reduction and improved function in active police dogs with moderate to severe bilateral hip OA. In particular it produced an early reduction in pain scores and a long-lasting effect, superior to TA alone. Patients performed work as usual throughout observation period ⁽³⁾.

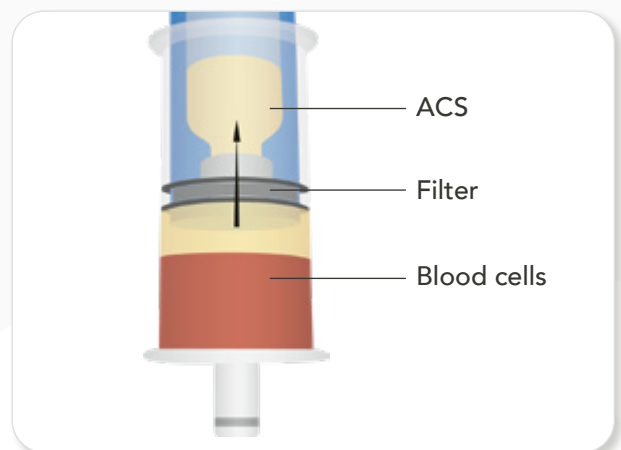
Improvements in Pain Severity Score ⁽³⁾



Safety innovation of sterile ACS

ACS containing the whole blood secretome is a cell-free solution without coagulation factors and largely devoid of immunogenic MHC antigens. Its cell-free nature allows for sterile filtration, potentially reducing contamination risks.

Using the Orthogen[®] Device vet, ACS is automatically sterile filtered during centrifugation. The resulting serum can be applied directly or stored for later use at -18°C.



Orthogen® Device vet – sterile ACS preparation



1.

Aseptic blood draw (15 mL)



2.

3-6 h incubation



3.

3 min centrifugation



4.

Vial extraction



6 mL sterile ACS

Orthogen® Device vet kit

- Orthogen® Device vet
- Sampling adapter for blood draw
- Stickers for device and glass vial
- SteriTamp stickers for vial closure
- License for concomitant therapy (Patent US9,724,391; EP2 437 747)



References

1. Soontarak S et al.: *In Vitro Anti-Inflammatory and Regenerative Effects of Autologous Conditioned Serum from Dogs with Osteoarthritis*. *Animals* 2022,12,2717. <https://doi.org/10.3390/ani12192717>
2. Sawyere DM et al.: *Cytokine and Growth Factor Concentrations in Canine Autologous Conditioned Serum*. *Vet Surg.* 2016 Jul;45(5):582-6. <https://doi.org/10.1111/vsu.12506>
3. Alves JC et al.: *A Comparison of Intra-Articular Blood Cell Secretome and Blood Cell Secretome with Triamcinolone Acetonide in Dogs with Osteoarthritis: A Crossover Study*. *Animals* 2022, 12, 3358. <https://doi.org/10.3390/ani12233358>



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