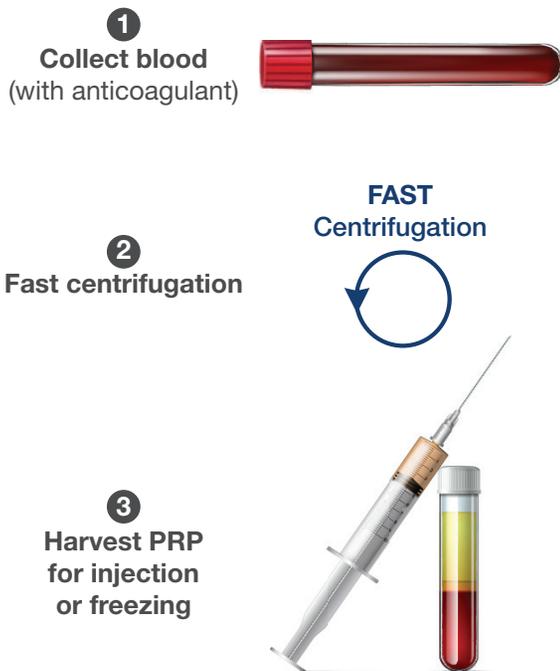


PRP (Platelet Rich Plasma)

PRP uses the concentrate of intact blood cells from your horse; mostly platelets and in some cases white blood cells. Platelets are non-nucleated cells containing a variety of granules. These granules store cellular molecules important for vital physiological functions. They also contain large amounts of growth factors and chemokines which attract white blood cells to sites of infection.^{5,6}

Blood is collected from your horse and mixed with an anticoagulant solution and then placed into a specialized device. This device is then centrifuged at a specific G-force to separate out the red blood cells, buffy coat layer, and platelet poor plasma. The buffy coat layer contains beneficial platelets and white blood cells and is harvested for use on the patient.



Benefits⁷ of irap/ACS and PRP include:

- Provides a more physiological alternative to conventional treatments which may help support a healthy inflammatory response in the joints
- May help relieve inflammation associated with horses being widely used in competition

References

1. Orved K. F. (2018). Regenerative Medicine and Rehabilitation for Tendinous and Ligamentous Injuries in Sport Horses. *Veterinary Clinics of North America. Equine Practice*, 34(2), 359–373.
2. Bogers SH. Cell-Based Therapies for Joint Disease in Veterinary Medicine: What We Have Learned and What We Need to Know. *Front Vet Sci*. 2018 Apr 16;5:70. doi: 10.3389/fvets.2018.00070. PMID: 29713634; PMCID: PMC5911772.
3. Wehling, P. (2007). Autologous conditioned serum in the treatment of orthopedic diseases: the orthokine therapy. *BioDrugs: clinical immunotherapeutics, biopharmaceuticals and gene therapy*, 21(5), 323–332.
4. Ionita, C. R. (2016). Comparison of humoral insulin-like growth factor-1, platelet-derived growth factor-BB, transforming growth factor- β 1, and interleukin-1 receptor antagonist concentrations among equine autologous blood-derived preparations. *AJVR*, 77(8), 898–905.
5. Blair, P., & Flaumenhaft, R. (2009). Platelet alpha-granules: basic biology and clinical correlates. *Blood reviews*, 23(4), 177–189.
6. Werner, S., & Grose, R. (2003). Regulation of wound healing by growth factors and cytokines. *Physiological reviews*, 83(3), 835–870.
7. Camargo Garbin L, Lopez C and Carmona JU (2021) A Critical Overview of the Use of Platelet-Rich Plasma in Equine Medicine Over the Last Decade. *Front. Vet. Sci.* 8:641818.

Dechra Veterinary Products
7015 College Blvd., Suite 525, Overland Park, KS 66211
(866) 933-2472 | www.dechra-us.com

Dechra is a registered trademark of Dechra Pharmaceuticals PLC.
04CB-REG22001-0722



Equine Regenerative Therapies

Equine Regenerative Therapies

Regenerative therapies promote self-healing of the body through internal or external delivery of beneficial cells, cellular molecules, and supporting structures.¹

To put it in simpler terms, regenerative therapies are healing components from the body for the body. These treatments replace or regenerate body cells by stimulating the immune system to promote healing.

Healing components can include:

- **Scaffolds**, which provide structural support for cell attachment
- **Cells** such as platelets, white blood cells, and stem cells
- **Bioactive signals**, including cytokines (cellular proteins) and growth factors

The goals for regenerative therapies¹ are to:

- **Restore normal structure**
- **Return to previous function or athletic level**
- **Prevent injury**

The final product from each device is called an autologous blood product (ABP). Autologous means the blood products are collected from the patient.

Many different regenerative medicine devices exist on the market, and it is important to know how each one works when considering the best therapy for the patient.

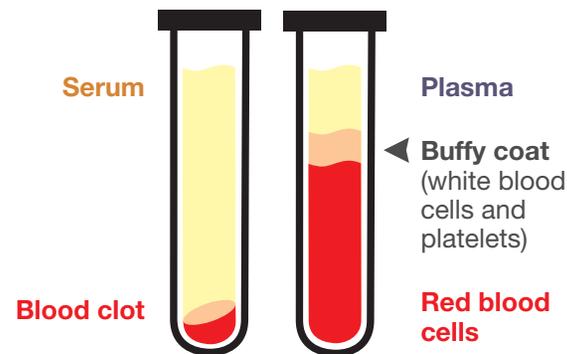
ABPs are either serum-based or plasma-based:

Serum-based (contains no cells)

Autologous Conditioned Serum (ACS)/Interleukin-1 Receptor Antagonist Protein (IRAP)

Plasma-based (cellular)

Platelet Rich Plasma (PRP)
Autologous Protein Solution (APS)



Serum vs Plasma²

Serum (ACS)

Fluid that remains after blood has clotted and is spun in a centrifuge

Contains:

- Protein, enzymes, and nutrients
- Beneficial cytokines

Plasma (PRP)

Fluid that remains when clotting is prevented by adding an anticoagulant

Contains:

- Intact blood cells
- Proteins, enzymes and nutrients
- Lower levels of inflammatory substances

ACS and IRAP

ACS uses white blood cell activation to release anti-inflammatory cytokines such as IRAP³ as well as platelet activation to release beneficial growth factors.⁴

Blood is collected from your horse in a specialized device, incubated for a specific time and temperature, and then centrifuged at a specific G-force which causes the serum to separate from the red blood cells. The concentrated serum is then collected for immediate use or frozen for future use.

1
Collect blood



2
Incubate

Incubation
at
37° C

3
Separate serum

FAST
Centrifugation



4
Serum ready for
injection or
cold storage

