

The IRAP ProEAS™ System

The IRAP ProEAS System consists of a dual-port, tubular device containing glass beads that maximize the surface area inside the device. Blood that has been incubated in this unique device can be separated to produce autologous serum useful at the point of care. Because the serum is derived from the animal's own blood, the possibility of adverse allergic or anaphylactic side effects is drastically reduced.



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Arthrex®
Vet Systems

U.S. patent information at:
www.arthrex.com/corporate/virtual-patent-marking

www.arthrexvetsystems.com

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The IRAP ProEAS™ System



Arthrex®
Vet Systems

Features and Benefits

The serum produced by the IRAP ProEAS™ system is autologous, which reduces potential side effects or complications associated with other treatment methods. Blood processing using the IRAP ProEAS device produces serum containing anti-inflammatory and antidegenerative compounds. The newly designed IRAP ProEAS device increases the concentration levels of the beneficial factors in the autologous serum.



The Science Behind the System

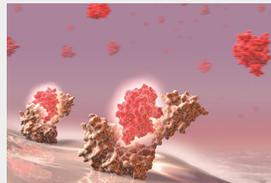
Defects in articular cartilage can induce osteoarthritis by causing molecular changes in the synovial fluid. Research in molecular biology discovered the major inducer of osteoarthritis was the general inflammatory cytokine interleukin-1 (IL-1) which plays a key role in accelerating tissue destruction and the repair mechanisms.

In a healthy joint, IL-1 and interleukin-1 receptor antagonist (IL-1Ra) are in balanced concentrations. In cases of osteoarthritis, there is not sufficient IL-1Ra produced to block the destructive effects of the increased IL-1. The result is inflammation, joint pain, and eventually cartilage destruction.

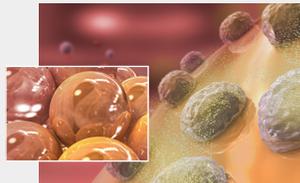
In the IRAP ProEAS system, monocytes (a type of white blood cell) bind to the glass beads. The cells are then stimulated to produce regenerative and anti-inflammatory proteins without the addition of drugs. This process takes place over an incubation period of 24 hours.



The IRAP ProEAS System



In osteoarthritis, IL-1 is produced in large amounts and binds to receptor sites on the cartilage signaling cell destruction.

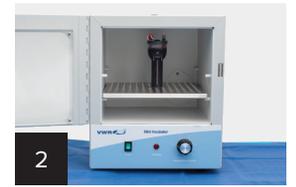


With the IRAP ProEAS System, monocytes bind to the beads stimulating the regenerative and anti-inflammatory proteins during incubation.

Technique



Harvest 50 mL of blood into a syringe and transfer it into the IRAP ProEAS device.



Let the harvested blood incubate for 24 hours to increase anti-inflammatory and regenerative protein concentration levels.



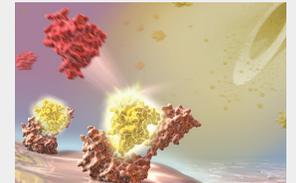
After incubation, place the IRAP ProEAS device into a centrifuge to separate the serum from the blood.



Extract the serum, which can be placed into syringes or ampoules for immediate use, or frozen for later use.



Introduction of IRAP ProEAS serum into the joint.



The IRAP ProEAS serum has high concentrations of regenerative and inhibitory proteins that block the effects of destructive proteins like IL-1, by filling the receptors on the cartilage with IL-1Ra.