

Our High Concentrate 20 Billion+ PRP Is Very Rich In A2M

What is an Alpha 2 Macroglobulin (A2M) Injection?

A2M is a molecule that occurs naturally in your bloodstream and when injected into the painful area, begins to promote healing.

The protein encoded by A2M is a protease inhibitor and cytokine transporter. Using an amino acid "bait"-and-trap mechanism to inhibit a broad spectrum of proteases, including trypsin, thrombin, as well as collagenase. It can also inhibit inflammatory cytokines, and it thus disrupts inflammatory cascades.

Scientific evidence points to A2M to be the key to stopping osteoarthritis at the molecular level. A2M is a Broad Spectrum Multi-Purpose Protease Inhibitor (a powerful chemical in destroying proteins that cause arthritis) that captures and inactivates the three major chemicals that lead to joint breakdown and cartilage damage. Once these bad chemicals are trapped by A2M, the body can then quickly eliminate them.

Alpha 2 Macroglobulin (A2M) injections are a cutting-edge new treatment for osteoarthritis and other painful orthopedic conditions. A2M is a human plasma protein molecule that occurs naturally in your bloodstream and when injected into the osteoarthritic or painful area, begins to promote healing.

How does A2M Therapy Work?

An A2M injection deposits a rich supply of A2M protein directly into the injured area. The injected protein molecules quickly get to work, protease binding and removing destructive enzymes from your joint tissue.

At your appointment, your blood will be drawn and spun in a centrifuge to separate it into red and yellow plasma. The yellow plasma, concentrated 6X with A2M protein molecules, will be re-injected into your joint.

The procedure is minimally-invasive, and not painful. Most patients tell us they feel an improvement in symptoms and mobility on the very same day. The anti-inflammatory effects may last for several months, depending on your circumstances.

Early, regular treatments can relieve pain, promote tissue growth, and slow or stop the progression of joint degeneration. It can even prevent or limit the onset of post-traumatic osteoarthritis.



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Additional Science....

Human Alpha 2 Macroglobulin (A2M) protects your tissues and boosts natural healing by binding to destructive enzymes that cause cartilage decay and osteoarthritis. Four identical subunits that are bound together by –S-S– bonds make Alpha 2 Macroglobulin. Each monomer of human alpha-2-macroglobulin is composed of several functional domains, including:

- Macroglobulin domains
- A thiol ester-containing domain
- A receptor-binding domain

Overall, alpha-2-Macroglobulin is the largest major non-immunoglobulin protein in human plasma.

These enzymes called proteases perform an essential metabolic function: breaking down proteins. However, they can also eat away at your cartilaginous tissue, especially if that tissue has been damaged by a traumatic injury or overuse. As the cartilage degenerates, the joint becomes inflamed, leading to chronic pain and stiffness.

A2M protein molecules create protease inhibitors by binding to them, rendering them harmless and allowing them to be flushed naturally from your body. But the A2M protein molecule itself is large and complex. It travels easily through the bloodstream, but not through your “avascular” cartilage – (meaning it has minimal to no blood flow).

A2M protein is able to inhibit all four classes of proteinases by a unique ‘trapping’ mechanism. Containing a peptide stretch, called the ‘bait region’ which contains specific cleavage sites for different proteinases, when a proteinase cleaves the bait region, a conformational change is induced in the protein that traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates (activity against high molecular weight substrates is greatly reduced). Following cleavage, in the bait region a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase.

References:

A2M & Osteoarthritis <http://www.ncbi.nlm.nih.gov/pubmed/24578232>

A2M & Inflammation <http://www.ncbi.nlm.nih.gov/pubmed/25855121>

Who is a Good Candidate for A2M Injections?

A2M is a safe and effective treatment many joint pain conditions, including:

- Osteoarthritis (Knee arthritis, Hip arthritis)
- Joint injuries (Shoulder, Knee, Elbow, Rotator cuff)
- Labral Tear
- Torn meniscus
- Spinal injuries (Neck, Back)
- Lumbar and sacral osteoarthritis
- Coccydynia
- Sciatica (Lumbar radiculopathy)
- Herniated disc (Slipped disc, Disc displacement)
- Degenerative disc disease

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