

## Advantages of Patent-Pending Hyaluronan (HA)

Reasons to use our powder-to-liquid HA product:

- Intended Purpose – high molecular weight (HMW) HA is used orally as an anti-inflammatory, joint restorative, for treatment of joint pain, osteoarthritis, and rheumatoid arthritis. The HMW HA solutions are very thick (viscous) which is how the material functions as a shock absorber and cushion in joints.
- Stability – dry HA is stable and can last for years. When in solution the HMW HA begins depolymerizing (degrading) into low molecular weight (LMW) HA and smaller harmful fragments. The fragments are pro-inflammatory. As a solution of HMW HA degrades, it will become thin and eventually be as thin as water.
- Competitors – products are either in solid form (capsules, tablets or powder) intended to be consumed as the solid form, or liquids.
  - Solid forms are the least bioavailable. Solids and powders are not easily soluble, passing through the digestive system largely unchanged.
  - Liquids offer the most bioavailability, however the solution starts degrading rapidly after preparation.
    - Liquid products have degraded considerably (with the production of many fragments) since its manufacture and while sitting in warehouses and stores.
    - Competitors deal with the degradation in three ways.
      - Place no expiration dating on the liquid product.
      - Make the expiration date no more than 6 months.
      - Mask the degradation by adding xanthan gum to the formula (which keeps the solution thick).
- Our Product – our patent pending formulation is designed for consumer usage.
  - Consumer easily prepares liquid by adding water to the powder and mixing to dissolve just before use.
    - The formulation enables the HA to be dissolvable by the consumer in a short period of time.
      - The product is the freshest it can be.
      - Maximizes stability and size of the HMW HA.
      - Maximizes effectiveness.
      - Minimizes the detrimental fragments that occur during degradation.
  - Many common things will reduce the size of the HA biomolecule by depolymerization and is accelerated in the presence of multiple actions, all of which begin at the time of manufacture into a solution. Our patent-pending HA formula eliminates all of the degrading actions by enabling the consumer to prepare it just before usage.

Facts: for optimum anti-aging, cellular hydration and joint health, all vertebrate animals should supplement with HA, and should be using our patent-pending powder-to-liquid HA formulation products to maximize effects and minimize side effects from using unstable HA products.