

# **NANO FLEX**

Nano Flex is Platinum Biologics most concentrated Wharton's Jelly. To fully understand the benefits of Nano Flex we need to build a literal house of knowledge.

### The Foundation:

Much like the foundation for a house, the foundation for all connective tissue in the human body is collagen. It is one of the most widely distributed and concentrated substances in the musculoskeletal system. Your "house" is a foundation of skin, joint cartilage, tendons, ligaments, and even bone. All of these elements are collagen based.

#### The Floor:

To create the floor of a home, you have to lay down a complex network of cement board that acts as an anchor for any stone, wood or laminate that is laid on top. The floor of the human musculoskeletal system is a similar complex network of interwoven extracellular matrix fibers. These fibers are the micro architectural framework and floor for collagen formation. That extracellular matrix is composed of collagen type 1, 3, growth factors, cytokines and proteoglycans. These are the exact same constituent components in Wharton's Jelly.

### The Walls and Roof:

The walls and roof of a home give it strength, structural integrity and allow a home to withstand the elements. Wharton's Jelly acts in the exact same manner in the umbilical cord. In the perinatal period, Wharton's Jelly serves to supplement the structural integrity of the umbilical cord while cushioning and supporting the umbilical cord vessels that supply all the essential nutrients to a growing fetus.

#### **Foundation Cracks:**

With time and stress, even the most robust of foundations starts to show its age. No different than the collagen in our face or our joints, things tend to break down over time. To heal the "cracks" in your foundation, the body goes through a fibrin based healing process. That process leaves a scar. Think of any time you cut yourself, that defect in your "structural tissue" heals with a scar. But imagine if that healing didn't have to "scar". All healing in the body can follow one of two paths. One is fibrin based and leads to a scar. The other is collagen based, and restores the original relevant characteristics and strength of the native tissue. Wharton's Jelly has the building blocks necessary to "patch" those age related and trauma related defects in your connective tissue.

## WHY WHARTON'S JELLY?

Wharton's Jelly, a connective tissue found in the umbilical cord, is primarily composed of mesenchymal stem cells and various extracellular matrix components such as collagen, chondroitin sulfate, hyaluronic acid, and sulfated proteoglycans. It boasts the highest concentration of mesenchymal stem cells per milliliter compared to other tissues rich in extracellular matrix components. Additionally, Wharton's Jelly contains clinically significant growth factors, cytokines, and extracellular vesicles.

The advantages of Wharton's Jelly stem from its abundant extracellular matrix components, including collagen types I, III, and V, elastin, and fibronectin, which serve as a natural scaffold facilitating cellular adhesion. While primarily providing cushioning and structural support to the umbilical cord, Wharton's Jelly also offers a natural source of long-chain hyaluronic acid and numerous cytokines and growth factors. Notably, placental tissues, including Wharton's Jelly, are considered "immune privileged" due to their low likelihood of triggering an immune response, reducing the risk of adverse reactions.

Product	SKU	Dose	m g
NANO FLEX Wharton's Jelly Allograft	NX100 NX200	1 ml 2ml	150 mg 300 mg





