

**The 500 Line to restore
mobility and strength**

Powered by
SIGMOLECS® Technology

CONTRAD
S W I S S **500**®

AI
CR
ST

For Professional Use Only

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Scan the QR code to watch a webinar
in which Dr JO Serrentino
discusses the 500 Line

SIGMOLECS[®] Technology

- Engineered by Dr JO Serrentino for Contrad Swiss, consists of three hydrogel monodoses with peptides, hyaluronic acid and one of the most advanced technologies available for optimum joint and soft tissue wellness.
- Self-penetrating gel imbued with SIGMOLECS[®] Technology to reach deep tissue, working *in situ*, by simple topical administration of a sticky patch for maximum effectiveness.

AI 500[®]

CR 500[®]


ST 500[®]



AI500® helps to relieve pain caused by the inflammatory response. It plays a role on the pain mechanisms directly at the source of pain in all tissue types, contributing to quick soothing on all body zones.

CR500® supports cartilage scaffolds by restoring the extracellular matrix and providing lubrication of the joint capsule, thereby improving mechanical function of the joint and soothing associated discomfort.

ST500® supports the connective tissue matrix and is especially useful for the relief and intervention of injuries or physical stresses on tendons and ligaments, and other soft-tissue conditions.




SIGMOLECS® technology synthesizes functional peptides sequenced from biological proteins through an advanced technology that uses a composite of fragments from the source protein, to engineer functional polypeptides able to act directly on tissue through transdermal application. Combined with a highly penetrating hyaluronic acid-enriched hydrogel, the 500 line delivers optimal care to support clinical treatment plans.



SIGMOLECS[®] molecules are engineered from starting proteins chosen for their regenerative capacity.

Synthesized peptides are fragments of their original source protein, although they carry some of the signals from their source protein, they also incorporate new functions. By using a composite of fragments from the source protein, we can synthesize polypeptides with specific functions. These polypeptides carry more matricellular characteristics to interact within the intracellular spaces, thus contributing active function to the product. *In situ* application of a SIGMOLECS[®] 500 monodose then transfers these active properties directly to the tissue without the need for further breakdown as would occur in the starting protein.



**A pain management line
of products
for optimum joint and soft
tissue wellness.**

The 500 line of monodoses is designed to deliver care to the connective tissue matrix through non-invasive, *in situ* application at the target. Transdermal delivery is fast in reaching the hypodermis where the peptides stimulate physiological mechanism to soothe and regulate joints and soft tissue without needling, and to deliver lubricating and hydrating hyaluronic acid that supports joints and connective tissue scaffolds.



AI500[®] Monodose Gel

AI500[®] is a hydrogel to be applied to intact skin, intended to provide relief in cases of pain due to tension in muscles and adjacent tissues, to improve movement and function.



AI500® contains SH-Polypeptide-6 derived from the Interleukin-10 (IL-10) starting protein.

SH-Polypeptide-6 carries IL-10's anti-inflammatory activity by engaging signals that modulate NF-kB pathways, downregulating pro-inflammatory cytokines TNF, IL-6, IL-1 and IL-8¹⁻³.

Like its parent protein IL-10, SH-Polypeptide-6 inhibits protein tyrosine phosphatase 1B expression⁴ that can cause dysregulation of the energy metabolism of skeletal muscles causing pain and muscular spasms. Unlike its parent protein that requires breakdown to achieve this function, SH-Polypeptide-6 floods the *in situ* area immediately upon application of AI500®. This achieves a better circulating bioavailability within tissue right at the site of pain, thereby quickly regulating the pain mechanisms.

In general, AI500® can be used in conjunction with the other monodose gels to help attenuate pain, especially during the initial stages of healing.



CR500[®] Monodose Gel

CR500[®] is a hydrogel containing peptides and hyaluronic acid with a soothing action that helps prevent and attenuate the physiological degeneration of cartilage in osteoarthritis, thereby protecting against and slowing the progression of joint damage.



CR500[®] contains two polypeptides: SH-Polypeptide-85, a composite fragment derived from Fibroblast Growth Factor-9 (FGF-9) protein and SH-Polypeptide-93, sourced from the CCN family of proteins.

SH-Polypeptide-85 is source from the FGF-9 starting protein, known for regulating skeletogenesis especially expressed in areas surrounding the cartilaginous condensations⁵⁻⁷. Its polypeptide fragments carry this protective and regenerative feature on articular cartilage by acting on the matrix environment and regulating chondrogenesis, attenuating cartilage degradation and stimulating chondrocyte development and homeostasis⁸⁻⁹.

SH-Polypeptide-93 is sourced from the CCN family of proteins that encompass several members including CTGF and IGFBP¹⁰. The CCN family of proteins are dynamically matricellular known for their role in skeletal development, injury repair and angiogenesis¹¹⁻¹². SH-Polypeptide-93 carries the matricellular properties of its source proteins as a potent regulator of the extracellular matrix, stimulating cell response for the regeneration and regulation of ECM components and synovium¹³⁻¹⁴. These two polypeptides compounded in the CR500[®]'s hyaluronic acid- enriched hydrogel, act on the joint and synovium to restore and improve joint mechanics¹⁵⁻¹⁶.

CR500[®] applied *in situ* to joints relieves conditions associated with cartilage loss and degradation such as OA, helping to restore articular function and relieve pain.



ST500® contains two peptides: SH-Polypeptide-29, synthesized from an Interleukin-3 starting protein and, SH-Tripeptide-1 synthesized from Fibroblast Growth Factor-1 protein.

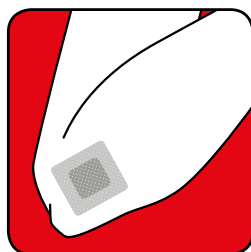
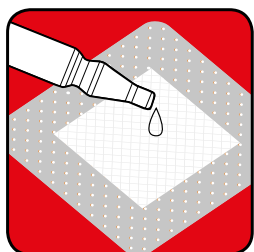
Like its parent protein IL-3, SH-Polypeptide-29 delivers hematopoietic factors that enhance cellular differentiation, especially tenogenic differentiation¹⁷⁻¹⁸. Since SH-Polypeptide-29 can circulate freely within the tissue upon its *in situ* application without requiring breakdown like its parent protein, it stimulates the hematopoietic niche¹⁹ within the connective tissue inducing better cell differentiation especially towards tendons and soft tissue.

In tandem with SH-Tripeptide-1, ST500® is a potent mediator of the extracellular matrix, stimulating its components to initiate regenerative pathways within extracellular spaces and contributing structural integrity and elasticity²⁰⁻²¹ to ligaments and tendons and to the connective tissue matrix²²⁻²⁵ overall.



ST500® Monodose Gel

ST500® is a hydrogel containing peptides and hyaluronic acid with a soothing action that helps to limit the physiological degeneration of tendons and muscles, thereby aiding joint movement.



IMPORTANT TIPS:

It is important to cover the gel with an adhesive patch, DO NOT USE IT AS A TOPICAL RUB. Please scan the QR code below to watch a short instructional video on how to use the 500 Line"



Scan the QR code to learn how to correctly apply the 500 Line monodoses in just 1 minute

Use of the 500 line monodoses

The monodoses can be applied in several areas, as needed, on the patient

- Apply the AI500® to the painful area or above the point of pain.
- Apply the ST500® on the area in need of repair.

You can apply an AI500® patch above the ST500® and/or CR500® patch if you need pain relief.

- ST500® and/or CR500® are particularly good to apply after a stem cell treatment. This can be done one time post treatment after each stem cell or PRP treatment.
- ST500® can be used for pre and post regenerative treatments. Apply the patch to the affected area 2 x week for 2-4 weeks, then 1 x week for 2-4 weeks then 1 x month for 2-4 months.
- AI500® can be applied to any area in need of pain relief. Multiple patches can be applied at several spots for the patient to remove the next day. For acute cases, the patient can return twice a week for 2-4 weeks for application. It is important to know the source of the pain and position the patch above, on or along the channel of pain or inflammation or along the channel of pain or inflammation.
- For chronic osteoarthritis, an *in situ* application of two to four patches of CR500® surrounding the joint in question can be applied 1-2 x week for 1 month, then twice a month for 2-4 months. Several joints can be done at the same time. There is no limit to the amount of monodoses that can be used in one session.

GENERAL TIPS

- 10x5 or 10x6 cm adhesive patches are preferred. Make sure the gel does not contact the adhesive sides.
- The patch should remain in situ for a minimum of 2.5 hours and optimally for 6-8 hours.
- There is no limit, the patients can even remove the patch the next day.
- It is important to tell patients not to get the patch wet once in place.
- It is important to apply the patch to clean dry skin. Wipe the area with alcohol before applying the patch on the area to be treated to ensure clean and dry skin.

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