STEM FORCE™

A POWERFUL FDA COMPLIANT "OFF-THE-SHELF" ADIPOSE DERIVED ALLOGRAFT

ABOUT STEM FORCE™

Stem Force is derived from vibrational liposuction technology from thoroughly screened donors and its intended use is for topical, subcutaneous injection, and to only be used where skin and fat naturally exist.

It contains a high concentration of live, pure human-derived cellular factors and proteins.

Important Information:

Stem Force is produced in the United States by an FDA registered lab that is currently conducting multiple FDA- approved clinical trials in the regenerative medicine industry.

HOW STEM FORCE™ WORKS

Stem Force is derived from dermal adipose tissue, which is classified as skin. It's a homologous Adipose Derived Allograft that behaves in the skin as it was naturally intended to perform.

The intent is to aid in the repair of damaged tissue while replacing skin tissue and supplementing natural functions. It is composed of the same cytokines and growth factors as:

- Collagen
- Elastin
- Hyaluronic Acid
- Proteins
- Nano Particles

In addition to extracellular communication mechanisms and human-derived cellular factors that exist in tissue to help repair defects where they may exist.

GENERAL APPLICATION GUIDELINES

Stem Force can be used anywhere where fat or skin naturally exists and can be administered via subcutaneous injection or applied topically.

Stem Force™ works best in combination with many established PRP protocols and was created on the premise that adding younger cells and proteins to aging populations in combination with autologous signaling from platelet-derived growth factors should enhance regeneration.

Stem Force™ is an affordable Off-The-Shelf product that should be offered to many PRP candidates.

CLINICAL STUDIES

Shift toward Mechanical Isolation of Adipose-derived Stromal Vascular Fraction: Review of Upcoming Techniques

PRS GLOBAL OPEN

Read

Rejuvenation of facial skin and improvement in the dermal architecture by transplantation of autologous stromal vascular fraction: a clinical study

NIH National Library of Medicine
National Center for Biotechnology Information

Read

Mechanical micronization of lipoaspirates for the treatment of hypertrophic scars

BMC

Read

Disclaimer, Use of Outside Content

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FAQ's

1. What is Stem Force™? Stem Force is derived from vibrational liposuction technology from thoroughly screened donors and its intended use is for topical, subcutaneous injection, and to only be used where skin and fat naturally exist. It contains a high concentration of live, pure human derived cellular factors and proteins.

2. Is Stem Force™ FDA approved in the United States? Stem Force™ meets all the criteria established by the US FDA for HCT/Ps that are regulated solely under Section 361 of the PHS Act. Please request the summary letter from FDAMap for further clarification if required.

3. How is Stem Force™ manufactured? Stem Force™ has developed a proprietary patented manufacturing method where both cellular and extracellular components from the skin tissue are solubilized, cleaned, tested, and ultra-frozen to preserve the integrity of the structural tissue. The allograft white fat tissue extract is cleaned to remove red blood cells and contains all the components of the skin tissue from which it is harvested.

4. What treatments can I market with Stem Force™? The product can be marketed for any treatment area where skin and fat naturally exist for subcutaneous injection. We do not recommend though, that you specifically market for OA or intravenous use.

5. How should Stem Force™ be stored for use? Stem Force™ can be stored as directed by the manufacturer under the following conditions. A) Indefinite storage to expiration date under liquid nitrogen at -196 C, B) storage up to 6-months at -80 C, C) storage up to 30-days at -20 C.

6. Once thawed, how long do I have to inject Stem Force™? 10 minutes. Recommendation would be to inject as soon as possible after thaw. Live cells live for approximately 10 minutes post thaw.

7. What volumes are available from Stem Force™? We currently only offer a 1.8cc (2.0 cc) volume vial. Our clinicians recommend the entire volume (1.8cc) for any large areas like legs, knees, hips, shoulders, etc. Stem Force™ CMS can easily be divided for smaller applications.

8. Can Stem Force™ be used with other products? You could use Stem Force™ by itself, or our recommendation would be to mix Stem Force™ with other autologous products including but not limited to PRP, PRM, SVF, etc.

The Top 100 of all Regenerative Proteins in Stem Force

1. Vascular endothelial growth factor (VEGF): Promotes angiogenesis, which is crucial for tissue regeneration.
2. Transforming growth factor-beta (TGF-β): Controls cell proliferation, differentiation, and matrix production.
3. Fibroblast growth factor (FGF): Induces tissue repair and angiogenesis.
4. Insulin-like growth factor-1 (IGF-1): Supports cell growth, differentiation, and tissue regeneration.
5. Hepatocyte growth factor (HGF): Stimulates tissue regeneration and has anti-inflammatory effects.
6. Stromal-derived factor-1 (SDF-1): Attracts stem cells to injured sites and promotes tissue repair.
7. Platelet-derived growth factor (PDGF): Stimulates cell migration, angiogenesis, and tissue repair.
8. Interleukin-6 (IL-6): Regulates inflammation and promotes tissue regeneration.
9. Epidermal growth factor (EGF): Enhances cell growth, proliferation, and tissue repair. 10. Bone morphogenetic proteins (BMPs): Induce osteogenesis and adipogenesis, which are critical for tissue regeneration.
11. Sonic Hedgehog (Shh): Plays a crucial role in tissue repair and regeneration, particularly in development and stem cell maintenance.
12. Wnt signaling pathway proteins: Wnt proteins, such as Wnt3a and β-catenin, are essential for tissue regeneration and stem cell activation.
13. Fibronectin: A glycoprotein involved in cell adhesion and migration during tissue repair and regeneration.
14. Connective tissue growth factor (CTGF): Mediates cell proliferation, migration, and extracellular matrix production important for tissue regeneration.
15. Nerve growth factor (NGF): Promotes the survival and growth of nerve cells, facilitating neural tissue regeneration.
16. Hairy and enhancer of split 1 (HES1): A transcription factor regulating cell fate decisions during tissue regeneration and development.
17. Matrix metalloproteinases (MMPs): Enzymes that facilitate tissue remodeling and repair by degrading extracellular matrix components.
18. Krüppel-like factors (KLFs): Transcription factors involved in tissue repair and regeneration by regulating cell proliferation and differentiation.
19. Interleukin-10 (IL-10): Modulates the immune response, reducing inflammation and supporting tissue regeneration.
20. Jun N-terminal kinase (JNK): A protein kinase involved in cell proliferation, apoptosis, and regeneration.
21. Neurotrophic factors (e.g., Brain-derived neurotrophic factor - BDNF): Support neurons' survival, growth, and regeneration in the central and peripheral nervous systems.
22. Notch signaling pathway proteins: Participate in various stages of tissue regeneration by regulating cell fate determination, differentiation, and proliferation.
23. Signal Transducer and Activator of Transcription 3 (STAT3): This plays a role in tissue repair and regeneration by modulating cell survival, proliferation, and immune responses.
24. Insulin-like growth factor-binding proteins (IGFBPs): Regulate the availability and activity of insulin-like growth factors, influencing cell proliferation, survival, and tissue regeneration.
25. Bone Morphogenetic Proteins (BMPs): Induce bone and cartilage formation, critical in skeletal tissue regeneration and repair.
26. Fibroblast-specific protein 1 (FSP1): Involved in fibroblast activation, extracellular matrix production, and tissue remodeling during regeneration.
27. Glial cell-derived neurotrophic factor (GDNF): Supports the survival and regeneration of neurons in the nervous system.
28. Follistatin-like protein 1 (FSTL1): Promotes tissue repair and regeneration by modulating inflammation, angiogenesis, and extracellular matrix remodeling.
29. Noggin: A bone morphogenetic protein antagonist that helps regulate cell differentiation and tissue regeneration in various contexts.
30. Tenascin-C: An extracellular matrix protein that contributes to tissue remodeling and regeneration by influencing cell adhesion, migration, and differentiation.
31. Integrins: Cell surface receptors are involved in cell adhesion, migration, and signaling during tissue repair and regeneration.
32. Matrix metalloproteinase-9 (MMP-9): Helps with tissue regeneration by degrading extracellular matrix components and facilitating cell migration.
33. Colony-stimulating factors (CSFs): Proteins that regulate the production and differentiation of various blood cells, contributing to tissue repair and regeneration. 34. Superoxide dismutase (SOD): An antioxidant enzyme that protects cells from oxidative stress and aids in tissue regeneration.
35. Fibulin-1: An extracellular matrix protein that helps tissue repair, angiogenesis, and cell adhesion during regeneration.
36. Osteopontin: Participates in tissue remodeling, wound healing, and bone regeneration by promoting cell migration and matrix deposition.
37. Galectin-3: A carbohydrate-binding protein involved in various aspects of tissue repair, including inflammation, fibrosis, and angiogenesis.
38. Regenerating islet-derived protein 3-alpha (REG3α): Promotes tissue regeneration and wound healing through its antimicrobial and growth-promoting effects.
39. Ephrin proteins: Contribute to tissue regeneration by regulating cell adhesion, migration, and communication during development and repair.
40. Notum: An enzyme involved in tissue regeneration through modulation of the Wnt signaling pathway.
41. Neurotrophins (e.g., nerve growth factor - NGF, brain-derived neurotrophic factor - BDNF): Promote the survival, growth, and regeneration of neurons in the nervous system.
42. Decorin: A small proteoglycan that modulates collagen assembly and tissue remodeling during regeneration processes.
43. Regenerating gene (Reg) family proteins Play vital roles in tissue repair and regeneration, particularly in the gastrointestinal tract and pancreas.
44. Numb: Involved in cell fate determination, asymmetric cell division, and tissue regeneration.
45. Klotho: Regulates nutrient signaling pathways and has been implicated in tissue regeneration, including vascular and renal regeneration.
46. Growth differentiation factor 6 (GDF6): Important for skeletal tissue regeneration and repair, particularly in cartilage and joint repair.
47. Galectins: A family of proteins involved in diverse aspects of tissue regeneration, including inflammation, angiogenesis, and cell survival.
48. Sirtuins: A class of proteins involved in cellular metabolism and stress responses, contributing to tissue regeneration and longevity.
49. Myostatin: Regulates muscle growth and regeneration, and inhibition of myostatin has been explored for enhancing muscle regeneration.

The Top 100 of all Regenerative Proteins in Stem Force

50. Neuropilin-1: Plays a role in neural progenitor cell function, axonal guidance, and tissue regeneration in the nervous system.
51. Integrin αvβ3: Involved in angiogenesis, extracellular matrix remodeling, and tissue regeneration.
52. Chemokines: A family of small signaling proteins that regulate immune responses, inflammation, and cell migration during regeneration.
53. Thrombospondins: Contribute to tissue repair and regeneration by modulating angiogenesis, inflammation, and cell-matrix interactions.
54. Midkine: A growth factor involved in tissue repair and regeneration, particularly in neural and musculoskeletal systems.
55. Heat shock proteins (HSPs): Proteins that aid in cell survival, protein folding, and tissue protection during stress and regeneration.
56. Matrix Gla protein (MGP): Participates in tissue regeneration by modulating calcium metabolism and preventing calcification of tissues.
57. Sonic hedgehog-induced protein 1 (SHIP1): Regulates cellular signaling and tissue homeostasis during regeneration, particularly in the liver.
58. Regulator of G-protein signaling 4 (RGS4): Involved in tissue remodeling and regeneration by modulating G-protein signaling pathways.
59. Annexins: Proteins that play a role in membrane repair, anti-inflammatory processes, and tissue regeneration.
60. Progranulin: Involved in tissue repair and regeneration through its effects on cell survival, inflammation, and wound healing.
61. Xenopus oocyte maturation-related protein 2 (Xeomatrinx): Participates in regenerative process regulation and cellular reprogramming.
62. Serine protease inhibitors (Serpins): Regulate protease activity and support tissue repair and regeneration by modulating extracellular matrix remodeling.
63. Toll-like receptors (TLRs): Participate in the immune response, inflammation, and tissue repair during regeneration.
64. Tenascin-X: An extracellular matrix protein involved in tissue remodeling and wound healing during regeneration.
65. Wayward: A transcriptional regulator that controls tissue homeostasis and regeneration, particularly in the nervous system.
66. Decorin-like proteins: Contribute to tissue regeneration by modulating extracellular matrix organization and signaling pathways.
67. Tissue inhibitors of metalloproteinases (TIMPs): Act as regulators of matrix metalloproteinases, influencing tissue remodeling and regeneration.
68. Phosphatases: Enzymes that regulate cellular signaling pathways involved in tissue repair and regeneration.
69. Midline 1 (MID1): Participates in tissue regeneration and repair, particularly in
wound healing and bone development.
70. Apolipoprotein E (ApoE): Implicated in neuro-regeneration and repair processes, particularly in the central nervous system.
71. Tenascin-R: An extracellular matrix glycoprotein involved in tissue remodeling and regeneration, particularly in the nervous system.
72. Fibulin proteins Play a role in tissue repair and regeneration by regulating elastogenesis, angiogenesis, and cell adhesion.
73. Regenerating islet-derived protein 4 (REG4): Contributes to tissue repair and regeneration, particularly in the gastrointestinal tract.
74. Pregnane X receptor (PXR): Plays a role in liver regeneration and tissue remodeling through regulation of gene expression.
75. Twist: A transcription factor involved in tissue regeneration, cell migration, and differentiation during development and wound healing.
76. STAM-binding protein (STAMP): Participates in tissue repair and regeneration through modulation of cell signaling pathways.
77. Prostaglandin E2 receptor 4 (EP4): Involved in tissue repair and regeneration by regulating inflammation, cell proliferation, and angiogenesis.
78. Osteoprotegerin (OPG): Regulates bone remodeling and repair processes during tissue regeneration.
79. C-X-C motif chemokine ligand 12 (CXCL12): Promotes tissue regeneration by recruiting stem cells and contributing to neovascularization.
80. Plasminogen activator inhibitor-1 (PAI-1): Regulates fibrinolysis and tissue remodeling during wound healing and tissue regeneration.
81. Geminin: Controls cell proliferation and regeneration processes, particularly in tissue development and repair.
82. Chordin-like proteins: Participate in tissue regeneration by regulating bone morphogenetic protein (BMP) signaling and cell fate determination.
83. Crosstide: Plays a role in tissue regeneration by modulating cell migration and extracellular matrix remodeling.
84. Vascular cell adhesion molecule-1 (VCAM-1): Involved in tissue repair and regeneration by regulating leukocyte adhesion and migration.
85. Regenerating islet-derived protein 3-gamma (REG3γ): Supports tissue regeneration through its antimicrobial properties and modulation of inflammation.
86. Igf2bp1: A RNA-binding protein involved in tissue regeneration and repair processes, including wound healing.
87. Glypican-3: Participates in tissue regeneration by modulating growth factor signaling, cell proliferation, and tissue development.
88. Insulin-like growth factor binding protein 2 (IGFBP2): Modulates the activity of insulin-like growth factors, impacting tissue repair and regeneration.
89. Myocardin-related transcription factors: Involved in tissue regeneration by regulating smooth muscle cell differentiation and tissue remodeling.
90. Neural cell adhesion molecule (NCAM): Plays a role in neural regeneration and tissue remodeling during nervous system repair.
91. Chemokine (C-X-C motif) receptor 4 (CXCR4): Plays a role in cell migration, tissue regeneration, and angiogenesis.
92. Granulocyte colony-stimulating factor receptor (G-CSFR): Stimulates the production of white blood cells involved in tissue repair and regeneration.
93. Platelet-derived growth factor receptor (PDGFR): Mediates cell growth, migration, and tissue repair processes during regeneration.
94. Fibroblast activation protein alpha (FAP): Facilitates tissue remodeling and repair by modulating extracellular matrix components.
95. Galectin-1: Supports tissue regeneration by promoting anti-inflammatory responses and modulating cell adhesion and migration.
96. MyoD: A transcription factor that plays a key role in myogenic differentiation and muscle regeneration.
97. Janus kinase/signal transducer and activator of transcription (JAK/STAT) pathway components: Involved in regulating cell proliferation, differentiation, and tissue regeneration.
98. Tissue inhibitor of metalloproteinase-2 (TIMP-2): Participates in tissue remodeling and regeneration by inhibiting matrix metalloproteinases and promoting extracellular matrix stability.
99. Pleiotrophin (PTN): Promotes tissue regeneration and repair by activating cell signaling pathways involved in cell proliferation and migration.
100. Regenerating islet-derived protein 1-alpha (REG1A): Supports tissue repair and regeneration through its anti-inflammatory effects and modulation of cell proliferation.

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THE FIRST FDA COMPLIANT "OFF-THE-SHELF" ADIPOSE DERIVED ALLOGRAFT