

WHAT IS CLAIMED IS

1. A method for treating a tissue matrix, comprising:
selecting a collagen-containing tissue matrix; ~~and~~
contacting the tissue matrix with a proteolytic enzyme under conditions
~~sufficient to that~~ produce ~~a desired~~ an increased level of pliability in the tissue matrix;
and
removing all the cells and cellular components from the tissue matrix.
- ~~2. The method of claim 1, wherein the tissue matrix is an acellular tissue matrix.~~
- ~~3-2.~~ The method of ~~either of claims 1-2~~ claim 1, wherein the tissue matrix comprises a dermal tissue matrix.
- ~~4-3.~~ The method of claim 1, wherein the tissue is selected from fascia, pericardial tissue, dura, umbilical cord tissue, placental tissue, cardiac valve tissue, ligament tissue, tendon tissue, arterial tissue, venous tissue, neural connective tissue, urinary bladder tissue, ureter tissue, and intestinal tissue.
- ~~5-4.~~ The method of any one of ~~claims 1-4~~ claims 1-3, wherein the enzyme is bromelain.
- ~~6-5.~~ The method of any one of ~~claims 1-4~~ claims 1-3, wherein the enzyme is selected from bromelain, papain, ficin, actinidin, or combinations thereof.
- ~~7-6.~~ The method of any one of ~~claims 1-6~~ claims 1-5, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not produce an undesirable change in at least one of tensile strength, tear strength, suture strength, creep resistance, burst strength, or thermal transition temperature, ~~or combinations thereof.~~

~~8.7.~~ The method of any one of ~~claims 1-6~~ claims 1-5, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that increase the porosity of the tissue matrix.

~~9.8.~~ The method of any one of ~~claims 1-6~~ claims 1-5, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not cause a statistically significant reduction in at least one of tensile strength, tear strength, suture strength, creep resistance, or thermal transition temperature, ~~or combinations thereof.~~

~~10.~~ ~~The method of any one of claim 3-9, further including treating the tissue matrix to removal at least some of the cells and cellular components from the tissue matrix.~~

~~11.~~ ~~The method of claim 10, including removal all the cells and cellular components from the tissue matrix.~~

~~12.9.~~ A method for treating a tissue matrix, comprising:

selecting a collagen-containing acellular tissue matrix;

contacting the tissue matrix with a proteolytic enzyme under conditions sufficient to that produce a desired an increased level of pliability in the tissue matrix ~~and to increase the porosity of the tissue matrix.~~

~~13.10.~~ The method of ~~claim 12~~ claim 9, wherein the acellular tissue matrix comprises a dermal tissue matrix.

~~14.11.~~ The method of ~~claim 12~~ claim 9, wherein the acellular tissue matrix is selected from fascia, pericardial tissue, dura, umbilical cord tissue, placental tissue, cardiac valve tissue, ligament tissue, tendon tissue, arterial tissue, venous tissue, neural connective tissue, urinary bladder tissue, ureter tissue, and intestinal tissue.

~~15.12.~~ The method of any one of ~~claims 11-14~~ claims 9-11, wherein the enzyme is bromelain.

~~16.13.~~ The method of any one of ~~claims 11-14~~ claims 9-11, wherein the enzyme is selected from bromelain, papain, ficin, actinidin, or combinations thereof.

~~17.14.~~ The method of any one of ~~claims 11-16~~ claims 9-13, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not produce an undesirable change in at least one of tensile strength, tear strength, suture strength, creep resistance, burst strength, thermal transition temperature, or combinations thereof.

~~18.15.~~ The method of any one of ~~claims 11-16~~ claims 9-13, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not cause a statistically significant reduction in tensile strength, tear strength, suture strength, creep resistance, thermal transition temperature, or combinations thereof.

~~19.16.~~ An acellular tissue matrix prepared by a processing comprising:
selecting an acellular tissue matrix; and
contacting the tissue matrix with a proteolytic enzyme under conditions
sufficient to that produce a desired an increased level of pliability in the tissue matrix

~~20.17.~~ The acellular tissue matrix of ~~claim 19~~ claim 16, wherein the acellular tissue matrix comprises a dermal tissue matrix.

~~21.18.~~ The acellular tissue matrix of ~~claim 19~~ claim 16, wherein the acellular tissue matrix is selected from fascia, pericardial tissue, dura, umbilical cord tissue, placental tissue, cardiac valve tissue, ligament tissue, tendon tissue, arterial tissue, venous tissue, neural connective tissue, urinary bladder tissue, ureter tissue, and intestinal tissue.

~~22-19.~~ The acellular tissue matrix of any one of ~~claims 19-21~~ claims 16-18, wherein the enzyme is bromelain.

~~23-20.~~ The acellular tissue matrix of any one of ~~claims 19-21~~ claims 16-18, wherein the enzyme is selected from bromelain, papain, ficin, actinidin, or combinations thereof.

~~24-21.~~ The acellular tissue matrix of any one of ~~claims 19-23~~ claims 16-20, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not produce an undesirable change in at least one of tensile strength, tear strength, suture strength, creep resistance, burst strength, or thermal transition temperature, ~~or combinations thereof~~.

~~25-22.~~ The acellular tissue matrix of any one of ~~claims 19-23~~ claims 16-20, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that do not cause a statistically significant reduction in at least one of tensile strength, tear strength, suture strength, creep resistance, or thermal transition temperature, ~~or combinations thereof~~.

~~26-23.~~ The acellular tissue matrix of any one of ~~claims 19-25~~ claims 16-22, wherein the tissue matrix is contacted with the proteolytic enzyme under conditions that increase the porosity of the tissue matrix.