CLAIMS

1. A protein which is EDI200.

2. The protein of claim 1 comprising the amino acid sequence represented by SEQ ID NO:1.

3. The protein of any preceding claim of which the amino acid sequence is represented by SEQ ID NO:1 or which is a hexamer of six identical species of which the amino acid sequence is represented by SEQ ID NO:1.

4. The protein of any preceding claim wherein the protein is glycosylated.

5. A pharmaceutical composition comprising the protein of any preceding claim.

6. The pharmaceutical composition of claim 5, further comprising a surfactant.

7. The pharmaceutical composition of claims 5 or 6, adapted for administration of 0.01-200.0 mg of EDI200 per kg body weight of the recipient per day, wherein optionally said administration is once daily and/or at 0.05 mg/kg, 0.5 mg/kg, 1 mg/kg, 1.5 mg/kg, 2 mg/kg, 3 mg/kg, 3.5 mg/kg, 7 mg/kg, 10 mg/kg, 20 mg/kg, 30 mg/kg, 40 mg/kg, and 50 mg/kg per single dose.

8. The pharmaceutical composition of any of claims 5-7, adapted for administration by intravenous infusion and/or by continuous infusion.

9. The protein of any of claims 1-4 or the pharmaceutical composition of any of claims 5-8, for use in a method for correcting, altering or mitigating a phenotypic presentation associated with ectodermal dysplasia.

10. The protein or pharmaceutical composition of claim 9 for use in the method of claim 9, wherein the method is a method for altering one or more phenotypic presentations of ectodermal dysplasia in a mammalian organism diagnosed with or suspected of having ectodermal dysplasia, wherein the phenotypic presentation of ectodermal dysplasia is selected from the group consisting of: missing teeth, abnormally shaped teeth, abnormal morphology or lack of sweat glands, lack of Meibomian glands, lack of glands of the upper respiratory

tract, lack of sebaceous glands, lack of salivary glands, lack or abnormal morphology of various types of hair, and alopecia, and wherein said method comprises administering said composition to said mammalian organism during gestation of said mammalian organism, wherein optionally the ectodermal dysplasia is hypohidrotic ectodermal dysplasia.

11. The protein or pharmaceutical composition of claim 10 for the use of claim 10, wherein the pharmaceutical composition comprising EDI200 is administered to the organism by treatment of the mother.

12. The protein or pharmaceutical composition of claim 11 for the use of claim 11, wherein treatment of the mother is parenterally by a method selected from the group consisting of *in utero* injection, intravenous injection, or intra-arterial injection.

13. The protein or pharmaceutical composition of claim 12 for the use of claim 12, wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and the pharmaceutical composition is administered at a time period during gestation selected from the group consisting of: after fertilization but before implantation, after implantation, between weeks 5-9 of gestation; between weeks 6-8 of gestation, during week 6 of gestation, during week 7 of gestation, during week 8 of gestation and after week 8 of gestation.

14. The protein or pharmaceutical composition of claim 13 for the use of claim 13 wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and wherein the phenotypic presentation is lack or abnormal morphology of various types of hair or alopecia and administration is between weeks 6-8 of gestation or during a treatment window beginning at a later time of gestation, wherein optionally said treatment window comprises 4-10 days.

15. The protein or pharmaceutical composition of claim 13 for the use of claim 13 wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and the phenotypic presentation is
(i) abnormal morphology or lack of sweat glands and administration is after week 8 of gestation; or
(ii) missing teeth or abnormally shaped teeth and administration is between weeks 5-9 of gestation, wherein optionally said missing or abnormally shaped teeth include one or more of the first, second or third molars, or the first or second premolar, canine or first or second incisors.

CLAIMS

1. A protein comprising the amino acid sequence represented by SEQ ID NO: 1.

2. The protein of claim 1 of which the amino acid sequence is represented by SEQ ID NO: 1 or which is a hexamer of six identical species of which the amino acid sequence is represented by SEQ ID NO: 1.

3. The protein of any preceding claim wherein the protein is glycosylated.

4. A pharmaceutical composition comprising the protein of any preceding claim.

5. The pharmaceutical composition of claim 4, further comprising a surfactant.

6. The pharmaceutical composition of claims 4 or 5, adapted for administration of 0.01-200.0 mg of a hexamer of six identical species of which the amino acid sequence is represented by SEQ ID NO: 1 per kg body weight of the recipient per day, wherein optionally said administration is once daily and/or at 0.05 mg/kg, 0.5 mg/kg, I mg/kg, 1.5 mg/kg, 2 mg/kg, 3 mg/kg, 3.5 mg/kg, 7 mg/kg, 10 mg/kg, 20 mg/kg, 30 mg/kg, 40 mg/kg, and 50 mg/kg per single dose.

7. The pharmaceutical composition of any of claims 4-6, adapted for administration by intravenous infusion and/or by continuous infusion.

8. The protein of any of claims1-3 or the pharmaceutical composition of any of claims 4-7, for use in a method for correcting, altering or mitigating a phenotypic presentation associated with ectodermal dysplasia.

9. The protein or pharmaceutical composition of claim 8 for use in the method of claim 8, wherein the method is a method for altering one or more phenotypic presentations of ectodermal dysplasia in a mammalian organism diagnosed with or suspected of having ectodermal dysplasia, wherein the phenotypic presentation of ectodermal dysplasia is selected from the group consisting of: missing teeth, abnormally shaped teeth, abnormal morphology or lack of sweat glands, lack of Meibomian glands, lack of glands of the upper respiratory tract, lack of sebaceous glands, lack of salivary glands, lack or abnormal morphology of various types of hair, and alopecia, and wherein said method comprises administering said composition to said mammalian organism during gestation of said mammalian organism, wherein optionally the ectodermal dysplasia is hypohidrotic ectodermal dysplasia.

10. The protein or pharmaceutical composition of claim 9 for the use of claim 9, wherein the pharmaceutical composition comprising a hexamer of six identical species of which the amino acid sequence is represented by SEQ ID NO: 1 is administered to the organism by treatment of the mother.

11. The protein or pharmaceutical composition of claim 10 for the use of claim 10, wherein treatment of the mother is parenterally by a method selected from the group consisting of in utero injection, intravenous injection, or intra-arterial injection.

12. The protein or pharmaceutical composition of claim 11 for the use of claim 11, wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and the pharmaceutical composition is administered at a time period during gestation selected from the group consisting of: after fertilization but before implantation, after implantation, between weeks 5- 9 of gestation; between weeks 6-8 of gestation, during week 6 of gestation, during week 7 of gestation, during week 8 of gestation and after week 8 of gestation.

13. The protein or pharmaceutical composition of claim 12 for the use of claim 12 wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and wherein the phenotypic presentation is lack or abnormal morphology of various types of hair or alopecia and administration is between weeks 6-8 of gestation or during a treatment window beginning at a later time of gestation, wherein optionally said treatment window comprises 4-10 days.

14. The protein or pharmaceutical composition of claim 12 for the use of claim 12 wherein the ectodermal dysplasia is hypohidrotic ectodermal dysplasia and the phenotypic presentation is

(i) abnormal morphology or lack of sweat glands and administration is after week 8 of gestation; or

(ii) missing teeth or abnormally shaped teeth and administration is between weeks 5-9 of gestation, wherein optionally said missing or abnormally shaped teeth include one or more of the first, second or third molars, or the first or second premolar, canine or first or second mc1sors.