CLAIMS

1. An injectable pharmaceutical composition comprising keratin for stimulating hairgrowth and regenerating dermal papilla,

wherein the keratin has a molecular weight of 500 to 70,000 Daltons by disulfide bond degradation or peptide degradation.

2. The injectable pharmaceutical composition of claim 1, wherein the pharmaceutical composition increases an expression level of at least one selected from the group consisting of beta-catenin, Sox-9, Sox-2, alkaline phosphatase, CD133, FGF7, FGF10, BMP6, P-cadherin, E-cadherin, MSX2, FOXN1 and CD10.

3. The injectable pharmaceutical composition of claim 1, wherein the pharmaceutical composition is administered to the dermal layer or the subcutaneous tissue.

4. The injectable pharmaceutical composition of claim 1, further comprising: a penetration enhancer.

5. The injectable pharmaceutical composition of claim 4, wherein the penetration enhancer is at least one selected from the group consisting of sulphoxide, azone, pyrrolidone, fatty acids,lower alcohols having 1 to 4 carbon atoms, higher fatty alcohols having 6 or more carbon atoms,glycols, urea, terpene, terpenoid, and phospholipid.

6. The injectable pharmaceutical composition of claim 1, wherein the keratin is the keratin by the peptide degradation prepared by a preparation method, including i) reacting keratin with hydrolase; and ii) removing the hydrolase.

7. The injectable pharmaceutical composition of claim 6, wherein the hydrolase is at least one selected from the group consisting of Proteinase-K, Leucyl aminopeptidase, carboxypeptidase, pepsin, trypsin, and chymotrypsin.

8. The injectable pharmaceutical composition of claim 6, wherein the hydrolase is immobilized on beads.

9. The injectable pharmaceutical composition of claim 6, wherein the preparation method further includes iii) removing the activity of the hydrolase after step ii).