Tables

Table 2: Percentage (%) of FGF-18 monomers in freeze-dried pre-formulations (10 mcg/vial of FGF-18 and 0.2 mg/vial of F68) upon storage, analyzed by SE-HPLC

	40°C		25°C		5°C	
Composition	**3w**	**4w**	**3w**	**4w**	**3w**	**4w**
histidine buffer pH 6; F68; 30 mg/vial sucrose	81.6	71.9	78.2	75.5	82.3	83
phosphate buffer pH7.2; F68; 30 mg/vial sucrose	88.1	90	89.4	91.2	96.5	93.4

Table 3: Percentage (%) of FGF-18 monomers in the freeze-dried candidate formulations upon storage, analyzed by SE-HPLC.

40°C							
	T=0	**4w**	**8w**	**13w**	**26w**		
FD-300	99.9	99.9	99.9	99.9	99.9		
FD-30	100.0	99.7	99.8	99.8	99.8		
25°C							
	T=0	**13w**	**26w**	**39w**	**52w**	**78w**	**102w**
FD-300	100.0	99.9	100.0	99.9	100.0	99.9	100.0
FD-30	100.0	99.8	99.8	100.0	99.8	99.4	100.0
2-8°C							
	T=0	**4w**	**8w**	**13w**	**26w**	**39w**	**52w**	**78w**
FD-30	100.0	100.0	100.0	98.8	99.8	99.7	99.5	99.7

Table 4: Purity of the FGF-18 freeze-dried candidate formulations upon storage, analyzed by SDS-Page (in %).

40°C				
	2 Mo	**6 Mo**	**7 Mo**	**9 Mo**
FD-300	**>99.5**	**>99.0**	-	-
FD-30	-	-	> 97.5	99.0
25°C				
	7 Mo	**9 Mo**	**12 Mo**	**18 Mo**
FD-300	>97.5	>99.5	>99.0	>99.5
FD-30	> 99.0	99.0	> 99.0	> 99.0
2-8°C				
	7 Mo	**9 Mo**	**12 Mo**	**18 Mo**
FD-30	>97.5	99.0	> 99.0	> 99.0

Claims

1. A stable freeze-dried formulation comprising FGF-18, a buffer, a poloxamer surfactant and a sugar as stabilizing ~~agent.~~ agent, wherein the buffer is a phosphate buffer and keeps the pH comprised between 6 and 8.

~~2. The stable freeze-dried formulation according to claim 1, wherein the buffer is a phosphate buffer and keeps the pH comprised between 6 and 8.~~

~~3.~~ 2. The stable freeze-dried formulation according to claim ~~2~~ 1, wherein the phosphate buffer keeps the pH at ~~or about~~ 7.2.

~~4.~~ 3. The stable freeze-dried formulation according to any of the preceding claims, wherein the concentration of the buffer is at ~~or about~~ 5 to 100 mM.

~~5.~~ 4. The stable freeze-dried formulation according to any of the preceding claims, wherein the poloxamer surfactant is poloxamer 188.

~~6.~~ 5. The stable freeze-dried formulation according to any of the preceding claims, wherein the concentration of the poloxamer surfactant is at ~~or about~~ 0.1 to 0.4 mg/vial.

~~7.~~ 6. The stable freeze-dried formulation according to any of the preceding claims wherein the stabilizing agent is sucrose.

~~8.~~ 7. The stable freeze-dried formulation according to any of the preceding claims, wherein the concentration of the stabilizing agent is at ~~or about~~ 10 to 60 mg/vial.

~~9.~~ 8. The stable freeze-dried formulation according to any one of the preceding claims wherein the concentration of FGF-18 is at ~~or about~~ 20 to 300 mcg/ vial.

~~10.~~ 9. The stable freeze-dried formulation according to any one of the preceding claims, wherein the formulation comprises 20, 30, 60, 100, 200 or 300 mcg/vial of FGF-18, 10 mM phosphate buffer which keep the pH at ~~or about~~ 7.2, 30 mg/vial of sucrose and 0.2 mg/vial of poloxamer 188.

~~11.~~ 10. The stable formulation according to any of the preceding claims, wherein the formulation further comprises a 5% overage of FGF-18.

~~12.~~ 11. The stable freeze-dried formulation according to any of the preceding claims, wherein FGF-18 is selected from the group consisting of :

a. a polypeptide comprising or consisting of the amino acid residues 28-207 of SEQ ID NO:1,

b. a polypeptide comprising or consisting of the amino acid residues 28-196 of SEQ ID NO:1, and

c. a polypeptide comprising or consisting of SEQ ID NO:2.

~~13.~~ 12. A method for producing the stable freeze-dried formulation according to any of the preceding claims, comprising the steps of:

a. forming a mixture of FGF-18 together with the buffer, the surfactant and the stabilizing agent, and

b. subjecting the mixture to lyophilization.

~~14.~~ 13. An article of manufacture comprising a first container comprising the stable freeze-dried formulation according to any one of claims 1-~~12~~ 11 and a second container comprising a solvent for reconstitution.

~~15.~~ 14. The article of manufacture according to claim ~~14~~ 13, wherein the container comprising the stable freeze-dried formulation and the one comprising a solvent for reconstitution are the two compartments of a dual-chamber system.