CLAIMS

1. Solid controlled release pharmaceutical or food formulation comprising at least one active ingredient dispersed in a mixture of glycogen with a polysaccharide other than alginate.

2. Formulation according to Claim 1, where said glycogen comprises less than 1% by weight of reducing sugars.

3. Formulation according to Claim 2, where said glycogen contains less than 0.25% by weight of reducing sugars.

4. Formulation according to any one of the preceding Claims, where said glycogen comprises less than 3000 ppm of nitrogen.

5. Formulation according to Claim 4, where said glycogen comprises less than 1000 ppm of nitrogen.

6. Formulation according to Claim 4, where said glycogen comprises less than 100 ppm of nitrogen.

7. Formulation according to any one of the preceding Claims, where said polysaccharide is selected from the group comprising celluloses, gums, carrageenans, mannanes and other hydrophilic polysaccharides.

8. Formulation according to Claim 7, where said celluloses are selected from the group comprising microcrystalline cellulose, alkylcelluloses, hydroxyalkylcelluloses, hydroxyalkymethylcelluloses, hydroxyalkylalkylcelluloses, carboxyalkylcelluloses.

9. Formulation according to Claim 8, where said alkylcelluloses are selected from the group comprising methylcellulose, ethylcellulose and propylcellulose.

10. Formulation according to Claim 8, where said hydroxyalkylcelluloses are selected from the group comprising hydroxymethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, hydroxybutylcellulose and hydroxypentylcellulose.

11. Formulation according to Claim 8, where said hydroxyalkymethylcelluloses are selected from the group comprising hydroxyethylmethylcellulose, hydroxypropylmethylcellulose, hydroxybutylmethylcellulose and hydroxyphenylmethylcellulose.

12. Formulation according to Claim 8, where said hydroxyalkylalkylcelluloses are selected from the group comprising hydroxypropylethylcellulose, hydroxypropylbutylcellulose and hydroxypropylpentylcellulose.

13. Formulation according to Claim 8, where said carboxyalkylcelluloses are selected from the group comprising carboxymethylcellulose, carboxyethylcellulose and carboxypropylcellulose.

14. Formulation according to Claim 7, where said gums are selected from the group comprising xanthan gum, gum arabic, gum tragacanth, gellan gum and ghatti gum.

15. Formulation according to Claim 7, where said carrageenans are selected from the group comprising Kappa-carrageenan, Lambda-carrageenan, and Iota-carrageenan.

16. Formulation according to Claim 7, where said mannanes are selected from the group comprising carob gum, tara gum and guar gum.

17. Formulation according to Claim 7, where said other hydrophilic polysaccharides are selected from the group comprising agar, pectin, inulin, chitosan and chitin.

18. Formulation according to Claim 7, where said polysaccharide is selected from the group comprising hydroxymethyl-cellulose, hydroxyethylcellulose, hydroxypropylcellulose, hydroxybutylcellulose, hydroxypentylcellulose, hydroxypropylmethylcellulose, xanthan gum, gum arabic, gum tragacanth, gellan gum, and ghatti gum.

19. Formulation according to any one of the preceding Claims from 7 to 18, where said polysaccharide has a viscosity of between 100 and 100,000 mPa.s, with reference to a 2% w/v aqueous solution at 20°C.

20. Formulation according to any one of the preceding Claims, in which the ratio by weight between said glycogen and said polysaccharide is between 10:1 and 1:5.

21. Formulation according to any one of the preceding Claims, where the quantity of said active ingredient is between 3% by weight and 60% by weight relative to the total weight of said pharmaceutical formulation.

22. Formulation according to any one of the preceding Claims, where said active ingredient is a pharmaceutical active ingredient selected from the group comprising analgesics, antipyretics, antibiotics, antihistamines, anxiolytics, anti-inflammatories, antacids, vasodilators, vasoconstrictors, stimulants, decongestants, anticoagulants, antiarrhythmics, hypoglycaemising agents, diuretics, antidepressants, antiasthmatics, antiemetics, antihypertensives and spasmolytics, anti-tumour agents, hormones, muscle relaxants, antiseptics, antimycotics, immunostimulants, immunomodulants, anti-migraine agents, anti-Parkinson agents, peptides, drugs of biological origin and biosimilar drugs.

23. Pharmaceutical formulation according to Claim 22, where said active ingredient is selected from the group comprising ibuprofen, paracetamol, prulifloxacin, levocetirizine dihydrochloride, lorazepam, naproxen, ranitidine hydrochloride, isosorbide, nafazoline nitrate, piracetam, ticlopidine hydrochloride, propafenone hydrochloride, glimepiride, furosemide, verapamil, trazodone hydrochloride, flunisolide, dimenidrinate, diclofenac and its salts, ciprofloxacin, omeprazole, flurbiprofen, bindarit, sumatriptan, rizatriptan, zolmitriptan, levodopa, tramadol, morphine and codeine.

24. Formulation according to any one of the preceding Claims from 1 to 21, where said active ingredient is a food active ingredient selected from the group comprising vitamins, minerals, plant extracts, mixtures of straight and branched amino acids, and biotechnology products.

25. Formulation according to Claim 24, where said active ingredient is a food active ingredient selected from the group comprising calcium, phosphorus, magnesium, zinc, iron, serine, glutamine, arginine, vitamin

C, vitamin A, vitamins of the B group, pantothenic acid, folic acid, vitamin D, vitamin K, niacin, proline, glucosamine, chondroitin sulphate, resveratrol, polycosanols, lipoic acid, melatonin, extracts of harpagofito, boswellia, echinacea, gingko biloba, garlic, hypericum and bilberry.

26. Formulation according to any one of the preceding Claims, where said pharmaceutical formulation is selected from the group comprising tablets, granules, pellets, capsules, lozenges and pills.

27. Formulation according to Claim 26, where said formulation comprises a production excipient selected from the group comprising a glidant and a lubricant.

28. Formulation according to Claim 26, where said glidant is selected from the group comprising colloidal silica, magnesium silicate, magnesium trisilicate and talc.

29. Formulation according to Claim 26, where said lubricant is selected from the group comprising fatty acids and their salts, long-chain alcohols and glycerides.

30. Process for the production of a pharmaceutical or food form comprising at least one active ingredient dispersed in a mixture of glycogen with a polysaccharide other than alginate as defined in claim 1, comprising the steps of:

- mixing said glycogen and said polysaccharide with said active ingredient, and
- producing the desired pharmaceutical or food form.

31. Process of production according to Claim 30, comprising the steps of:

(i) mixing said glycogen and said polysaccharide with said active ingredient,

(ii) granulating the composition obtained in step (i) and drying the resultant granulate,

(iii) mixing the granulate obtained in step (ii) with a glidant agent,

(iv) mixing the composition obtained in step (iii) with a lubricating agent, and

(v) manufacturing the desired pharmaceutical or food form.

32. Process of production according to Claim 30, comprising the steps of:

(a) mixing said glycogen with a glidant agent,

(b) mixing the composition from step (a) with said active ingredient and said polysaccharide,

(c) mixing the composition from step (b) with a lubricating agent, and

(d) manufacturing the desired pharmaceutical or food form.

33. Process of production according to any one of the preceding Claims from 30 to 32, where said pharmaceutical form is selected from the group comprising tablets, granules, pellets, capsules, lozenges and pills.

34. Solid controlled release system for the preparation of pharmaceutical or food formulations comprising a mixture of a glycogen with a polysaccharide other than alginate as defined in Claims 2 to 20.

35. Use of a solid controlled release system comprising a mixture of a glycogen with a polysaccharide other than alginate as defined in Claims 2 to 20 for the preparation of slow release pharmaceutical or food formulations.