~~WE~~ CLAIM~~S~~:

1. A fermentation medium for production of recombinant proteins, its derivatives or analogs thereof by improving phosphate uptake through fermentation using methanol inducible fungal species, said medium characterized in that the residual concentration of urea is maintained in the range of about 0.3 M to about 1 M, varying the concentrations of basal salts and trace elements from 0.1X to 5X of the control medium, and wherein the methanol feeding rate ranges from about 6 g/L/h to about 20 g/L/h~~it consists an effective concentration of a carbonic acid amide~~.

2. The fermentation medium as claimed in claim 1, wherein the ~~carbonic acid amide~~urea is selected from the group comprising urea or its derivatives such as dimethylurea, diethylurea, N-acetylphenyl urea, isopropylpylideneurea, phenylurea or combination thereof.

~~3. The fermentation medium as claimed in claim 1, wherein the carbonic acid amide is urea.~~

~~4.~~3. The fermentation medium as claimed in claim 1, wherein the ~~carbonic acid amide~~urea is added in liquid, spray, powder or pellet form.

~~5. The fermentation medium as claimed in claim 1, comprising residual concentration of carbonic acid amide of upto 1M.~~

~~6. The fermentation medium as claimed in claim 1, wherein concentrations of basal salts and trace elements is varied from 0.1X to 5X of the control medium, keeping residual concentration of carbonic acid amide upto 1 M.~~

~~7. The fermentation medium as claimed in claim 1, wherein uptake of phosphate is improved.~~

~~8.~~4. The fermentation medium as claimed in claim 1, wherein the methanol inducible fungal species expressing the recombinant insulin product are selected from the group comprising Pichia pastoris, Pichia sp., Saccharomyces sp., Saccharomyces cerevisiae, Kluyveromyces sp., or Hansenula polymorpha.

~~9.~~5. A fermentation medium for production of recombinant proteins, their derivatives or analogs thereof by improving phosphate uptake through fermentation using microorganisms, said medium comprising residual concentration of urea ranging from about 0.5 g/L to about 3 g/L to yield a maximum product titre of above 0.5 g/L~~characterized in that it consists an effective concentration of a carbonic acid amide~~.

~~10.~~6. A fermentation medium for the production of secondary metabolites by improving phosphate uptake through fermentation using microorganisms, said medium characterized in that the medium comprises residual concentration of urea ranging from about 0.5 g/L to about 3 g/L effectuating bioconversion of compactin to pravastatin by at least 35%.~~it consists an effective concentration of a carbonic acid amide~~.

~~11.~~7. The fermentation medium according to claim ~~9~~ 5 ~~and~~ or claim ~~10~~6, wherein the ~~carbonic acid amide~~urea is selected from the group comprising urea or its derivatives such

as dimethylurea, diethylurea, N-acetylphenyl urea, isopropylpylideneurea, phenylurea or combination thereof.

~~12. The fermentation medium according to claim 9 and 10, wherein the carbonic acid amide is urea.~~

~~13.~~8. The fermentation medium according to claim ~~9~~ 5 ~~and~~ or ~~10~~6, wherein the ~~carbonic acid amide~~urea is added in liquid, spray, powder or pellet form.

~~14. The fermentation medium according to claim 9 and 10, comprising residual concentration of carbonic acid amide of upto 10 g/L.~~

~~15.~~9. The ~~-~~fermentation medium according to claim ~~9 and 10~~6, wherein the micro-organisms are selected from the group comprising E.coli, Streptomyces sp, Aspergillus sp, Rhizopus sp, Penillium sp and Rhizomucor sp.

~~16.~~10. A process for production of recombinant proteins, its derivatives or analogs thereof which comprises propagating a methanol inducible insulin expressing fungal species by improving phosphate uptake through~~in a~~ fermentation medium, said medium comprises a residual concentration of urea maintained in the range of about 0.3 M to about 1 M, to yield a maximum product titre of above 0.1 g/L~~characterized in that it consists an effective concentration of a carbonic acid amide~~.

~~17.~~11. The process as claimed in claim ~~16~~10, wherein the ~~carbonic acid amide~~urea is selected from the group comprising urea or its derivatives such as dimethylurea, diethylurea, N-acetylphenyl urea, isopropylpylideneurea, phenylurea or combination thereof.

~~18. The process as claimed in claim 16, wherein the carbonic acid amide is urea.~~

~~19.~~12. The process according to claim ~~16~~10, wherein the recombinant ~~insulin product~~protein produced is IN-105.

~~20.~~13. The process as claimed in claim ~~16~~10, wherein the recombinant ~~insulin product~~protein produced is an insulin precursor, insulin or their analogues or derivatives thereof.

~~21.~~14. The process as claimed in claim ~~20~~13, wherein the recombinant insulin product is insulin glargine.

~~22.~~15. The process according to claim ~~16~~10, wherein the recombinant protein produced is a cyclic or non-cyclic peptide.

~~23.~~16. The process as claimed in claim ~~22~~15, wherein the recombinant ~~peptide~~ protein is exendin.

~~24.~~17. The process as claimed in claim ~~16~~10, wherein the recombinant protein produced is an enzyme.

25.18. The process as claimed in claim 2417, wherein the recombinant enzyme protein product produced is lipase.

26.19. The process as claimed in claim 1610, wherein the recombinant protein produced is selected from a group comprising an insulin precursor, insulin or their analogues or derivatives thereof, glargine, exendin, carboxypeptidase and lipase .

27.20. The process as claimed in claim 1610, wherein the methanol inducible fungal species expressing the recombinant insulin product are selected from the group comprising Pichia pastoris, Pichia sp., Saccharomyces sp., Saccharomyces cerevisiae, Kluyveromyces sp., or Hansenula polymorpha.

28.21. The process as claimed in claim 2720, wherein the methanol inducible fungal species is Pichia pastoris.

29.22. The process as claimed in claim 1610, wherein the methanol feeding rate is up to 20 g /L of broth per h.

30. The process as claimed in claim 16, wherein the maximum product titre obtained is above 0.1 g/L.

31.23. A process for production of recombinant or non-recombinant protein products, their derivatives or analogs thereof which comprises propagating an inducible or non-inducible protein expressing microorganism by improving phosphate uptake throughin a fermentation medium, said medium comprising a residual concentration of urea ranging from about 0.5 g/L to about 3 g/L to yield a maximum product titre of above 0.5 g/Lcharacterized in that it consists an effective concentration of a carbonic acid amide.

32.24. The process according to claim 3123, wherein the carbonic acid amideurea is selected from the group comprising urea or its derivatives such as dimethylurea, diethylurea, N-acetylphenyl urea, isopropylpylideneurea, phenylurea or combination thereof.

33. The process according to claim 31, wherein the carbonic acid amide is urea.

34.25. The process according to claim 3123, wherein the recombinant protein product produced is G-CSF.

35.26. The process according to claim 3123, wherein the recombinant protein product produced is streptokinase.

36.27. The process according to claim 3123, wherein the protein product is lipase.

37.28. A process for production of secondary metabolites by fermentation usingwhich comprises propagating a microorganisms by improving phosphate uptake throughin a fermentation medium, said medium characterized in that the medium comprises residual concentration of urea ranging from about 0.5 g/L to about 3 g/L effectuating bioconversion

of compactin to pravastatin by at least 35%.~~it consists an effective concentration of a carbonic acid amide~~.

~~38.~~29. The process according to claim ~~37~~28, wherein the secondary metabolite produced is pravastatin.

~~39. A process of bioconversion of compactin to pravastatin, said conversion is effectuated in a medium, characterized in that said medium contains an effective concentration of a carbonic acid amide.~~

~~40.~~30. ~~-~~The process according to claim ~~39~~28, wherein the ~~carbonic acid amide~~urea is selected from the group comprising urea or its derivatives such as dimethylurea, diethylurea, N-acetylphenyl urea, isopropylpylideneurea, phenylurea or combination thereof.

~~41. The process according to claim 39, wherein the bioconversion of compactin to pravastatin is at least 35%.~~

~~42. A recombinant protein product obtained as claimed in any of the preceding claims.~~

~~43. The recombinant protein product obtained as claimed in any of the preceding claims selected from a group comprising insulin precursor, insulin or their analogues or derivatives thereof, glargine, exendin, carboxypeptidase and lipase.~~