We Claim:

1. A method of preparing a recombinant lectin protein, the method comprising; expressing a recombinant lectin protein encoded by a recombinant lectin gene in a host cell in culture, wherein:

a) the host cell is recombinant E coli, and expression is performed under conditions that the said cell ~~for the cell such that the cell~~ has a doubling time ~~of no more than~~between 100 minutes and 160 minutes;~~.~~

b) the recombinant lectin protein is a protein having less than 20% initiator methionine; and

c) the expression is carried out at a temperature of at least 15°C and no more than 22°C and carbon to nitrogen ratio is maintained during the expression phase at from 3:1 to 6:1.

~~2. The method as claimed in claim 1, wherein expression is performed under conditions for the cell such that the cell has a doubling time of at least 100 minutes.~~

~~3.~~2.The method as claimed in claim 1, wherein expression is performed at a temperature of at least 15°C and no more than 22°C.

~~4.~~3. The method as claimed in claim 1, wherein the host cell culture has a volume of at least 10L**.**

~~5.~~4.The method according to any one of claims 1 to ~~4~~3, wherein the method comprises culturing the host cell, said culturing comprising: a growth phase during which the host cell is grown prior to protein expression; and an expression phase during which protein expression is performed, wherein the growth phase is carried out at a temperature which is greater than the temperature at which the expression phase is performed, and wherein the temperature is reduced from the growth phase to the expression phase over a period of at least 4 and no more than 7 hours.

~~6. The method according to claim 5, wherein the growth phase is carried out at a temperature which is greater than the temperature at which the expression phase is performed.~~

~~7. The method according to 5 or 6, wherein the temperature is reduced from the growth phase to the expression phase over a period of at least 4 and no more than 7 hours.~~

8.5.The method as claimed in any of claims 45 to 7, wherein the expression phase is induced by addition of inducer at a concentration of at least 0.1 mM and no more than 0.57 mM, and wherein the inducer is IPTG (isopropyl thio-galacto-pyranoside).

9.6. The method as claimed in any of claims 5 4 to 658 wherein the expression phase is induced by addition of inducer when the optical density of the culture is at least 25 and no more than 40.

10. The method as claimed in claim 9, wherein the optical density is the measure of population of the host cell in the culture and is measured at 600 nm.

11. The method as claimed in any of claims 1 to 10, wherein the host cell for expression of recombinant lectin protein is *E. coli*.

12. The method as claimed in any of claims 8 to 11, wherein the inducer is IPTG.

13. The method as claimed in any of claims 8 to 12, wherein the inducer is added to the culture at a concentration of no more than 0.5 mM.

14. The method as claimed in any of claims 1 to 13, wherein the recombinant lectin protein is selected from:

a. SEQ ID NO:1;

b. SEQ ID NO:3;

c. SEQ ID NO:4; or

d. an amino acid sequence having at least 60%, 70%, 80%, 90%, 95%, 97%, 98%, or 99% homology with a, b or c.

15.7. The method as claimed in any one of claims 1 to 6 14, wherein the method further comprises:

a) optionally, cloning a recombinant lectin gene into an expression vector and inserting the expression vector into a host cell;

b) culturing the host cell in a suitable medium, wherein said culturing comprises a growth phase which is carried out at a temperature of from 25°C to 40°C, and an expression phase during which the recombinant lectin protein encoded by the recombinant lectin gene is expressed, wherein the expression phase is carried out at a temperature of at least 15°C and no more than 22°C from 15°C to 30°C and wherein the carbon to nitrogen ratio is maintained during the expression phase at from 3:1 to 6:1;

c) optionally, isolating the recombinant lectin protein expressed in (b) to obtain a crude recombinant lectin protein by centrifugation followed by disruption of cell surface; and

d) optionally, purifying the crude recombinant lectin protein to obtain a recombinant lectin protein isolate.

~~16. The method as claimed in claim 15, wherein the expression vector in step 'a' is as depicted in FIG.1~~

~~17.~~8. The method as claimed in claim 7~~15~~, ~~step 'b',~~ wherein in step 'b' the carbon source is added to the culture at a rate of at least 0.5 $gL^{-1}h^{-1}$ and at a rate of no more than 2 $gL^{-1}h^{-1}$ during the induction phase, and wherein the carbon source is glucose or glycerol, wherein the nitrogen source is added to the culture at a rate of at least 0.4 $gL^{-1}h^{-1}$ and at a rate of no more than 1.5 $gL^{-1}h^{-1}$ during the induction phase, and wherein the nitrogen source is tryptone, peptone or yeast extract.

~~18. The method as claimed in claim 15, step 'b', wherein the nitrogen source is added to the culture at a rate of at least 0.4 $gL^{-1}h^{-1}$ and at a rate of no more than 1.5 $gL^{-1}h^{-1}$ during the induction phase, and wherein the nitrogen source is tryptone, peptone or yeast extract.~~

~~19. The method as claimed in claim 15, wherein isolating a crude recombinant lectin protein in step 'c' is carried out by centrifugation followed by disruption of cell surface.~~

~~20.~~9. The method as claimed in claim 7~~15~~, wherein purifying the crude recombinant lectin protein in step 'd' comprises atleast one chromatographic step selected from anion exchange chromatography, cation exchange chromatography or hydrophobic interaction chromatography.

~~21. The method as claimed in claim 20, wherein at least one chromatographic step comprises anion exchange chromatography and/or cation exchange chromatography.~~

~~22. The method as claimed in claim 20, wherein the at least one chromatographic step comprises hydrophobic interaction chromatography.~~

~~23.~~10. The method as claimed in claim 7~~15~~, wherein purifying the crude recombinant lectin protein in step 'd' comprises a filtration step.

~~24.~~11. The method as claimed in any one of claims 1 to 10 ~~15~~, wherein the recombinant lectin protein is selected from

a. SEQ ID NO:1;

b. SEQ ID NO:3;

c. SEQ ID NO:4; or

d. an amino acid sequence having at least 60% 70%, 80%, 90%, 95%, 97%, 98%, or 99% homology with a, b or c.

~~25. The method as claimed in claim 15, wherein the host cell culture has a volume of at least 10L.~~

~~26.~~12. The ~~A~~ method as claimed in any of claims 1 to 1~~2~~1, further comprising ~~of~~ purifying ~~a~~ the crude recombinant lectin protein by a method comprising:

a) initial purification of the crude recombinant lectin protein by anion exchange chromatography to obtain a first purified elute;

b) optional purification of the first purified elute by hydrophobic interaction chromatography to obtain a second purified elute;

c) optional purification of the second purified elute by cation exchange chromatography to obtain a third purified elute;

d) further purification of the first, second or third purified elute by anion exchange chromatography to obtain a fourth purified elute; and

e) buffer exchange of the fourth purified elute by diafiltration to obtain a purified recombinant lectin protein isolate.

~~27. The method as claimed in claim 26, wherein the crude recombinant lectin protein is obtained by the method claimed in any one of claims 1 to 25.~~

~~28.~~13. A recombinant lectin protein produced by the method claimed in any one of claims 1 to 12~~25~~.

~~29.~~14. A method for preparing recombinant lectin protein having less than 20% of recombinant lectin with initiator methionine, wherein the method comprises atleast one of the following conditions:

a) an expression temperature of at least 15°C and no more than 22°C;

b) the expression (i.e.induction) phase is carried out for at least 10 hours;

c) carbon source is added to the culture at a rate of from 0.5 to 2 $gL^{-1}h^{-1}$;

d) the nitrogen source is added to the culture at a rate of from 0.4 to 1.5 $gL^{-1}h^{-1}$;

e) an inducer concentration of at least 0.1 mM and no more than 0.5 mM;

f) purifying the crude recombinant lectin protein using at least one chromatography step;

~~f)~~ wherein the expression is performed under conditions that the said cell has a doubling time between 100 minutes and 160 minutes.

~~30.~~15. A recombinant lectin protein having less than 20% of recombinant lectin with initiator methionine~~.~~ produced by the method claimed in any one of claims 1 to 12 optionally,

~~31. The recombinant lectin protein as claimed in claim 28 or 30,~~ wherein the recombinant lectin is selected from

a. SEQ ID NO:1;
b. SEQ ID NO:3;
c. SEQ ID NO:4; or
d. an amino acid sequence having at least 60%, 70%, 80%, 90%, 95%, 97%, 98%, or 99% homology with a, b or c.