Claims

Claim 1. A method of enhancing mental wellbeing comprising

extracting a powdered extract from a *Lignosus rhinoceros* fungus by selecting sclerotia with pore size of 7 pore/mm, drying the fungus and grinding the dried fungus into a powdered extract, wherein the powdered extract is dissolved in a solvent preferably water, filtered, condensed, pasteurised, filtered, dried and separated to a purified powdered extract,

formulating the powdered extract into a composition,

delivering the composition to a person wherein the composition:

(a) increases levels of dopamine;

(b) is capable of inhibiting cyclooxygenase *in vitro* by at least 30%; and

(c) induces expression of proopiomelanocortin (POMC) gene by more than 2-fold

wherein enhancing mental wellbeing comprises making the person taking or ingesting the composition feel excited, energized, relaxed, or happy.

Claim 2. The method according to claim 1, wherein the composition is able to increase the viability of PC-12 cells *in vitro* by at least 130%.

Claim 3. The method according to claim 1 or 2, comprising determining that SEQ ID NO. 1 is present in the sclerotia of *Lignosus rhinoceros* prior to extracting the powdered extract.

Claim 4. The method according to any one of claims 1 to 3, wherein enhancing mental wellbeing comprises feeling pleasure from the increased level of dopamine.

Claim 5. The method according to any one of claims 1 or 4, wherein enhancing mental wellbeing comprises feeling excited from an increased level of serum corticosterone.

Claim 6. The method according to any one of claims 1 to 5, comprising formulating the composition as a food preparation, a supplement, a beverage, or an aerosol.

Claim 7. The method according to any one of claims 1 to 6, wherein the composition is delivered orally.

Claim 8. The method according to any one of claims 1 to 6, comprising wherein the

composition is delivered nasally.

Claim 9. The method according to any one of claims 1 to 5, wherein the powdered extract is dissolved in a solvent, and the composition is delivered intravenously.

Claim 10. A composition comprising a powder extracted from *Lignosus rhinoceros* fungus sclerotia with pore size of 7 pore/mm obtained by the method of claim 1, wherein the composition is capable of: increasing levels of dopamine; inhibiting cyclooxygenase by at least 30%; Inducing expression of POMC gene by more than 2-fold and enhancing mental wellbeing, and wherein the composition is formulated as a food preparation, a supplement, a beverage or an aerosol.

Claim 11. The composition of claim 10, wherein the powdered extract from *Lignosus rhinoceros* fungus sclerotia with pore size of 7 pore/mm comprises 1% fat, 28% -30% carbohydrate, 28% protein of which more than 10% is glycoprotein, 2% Calcium, 4% potassium, 35% magnesium.

Claim 12. A food, beverage or supplement formulation comprising a composition of claim 10 or 11 for use in enhancing mental wellbeing wherein the composition is capable of: increasing levels of dopamine; inhibiting cyclooxygenase by at least 30%; Inducing expression of POMC gene by more than 2-fold.

Claim 13. An aerosol comprising a composition of claim 10 or 11 for use in enhancing mental wellbeing wherein the composition is capable of: increasing levels of dopamine; inhibiting cyclooxygenase by at least 30%; Inducing expression of POMC gene by more than 2-fold.