CLAIMS

1. A method for preparing a fermented mung bean extract, the method comprising the steps of:

(a) preparing the mung bean;

(b) inoculating the mung bean with *Rhizopus* sp.;

(c) incubating the mung bean aerobically;

(d) fermenting the mung bean anaerobically for a period of time;

(e) drying and grinding the fermented mung bean to a fine powder; and

(f) extracting the fermented mung bean extract rich in bioactive from the fine powder of step (e).

2. A method according to Claim 1, in which the *Rhizopus* sp. is *Rhizopus microsporus*.

3. A method according to Claim 1 or 2, in which step (f) further comprises the steps of:

(a) dissolving the fine powder of fermented mung bean in a solvent;

(b) separating a layer containing solubles;

(c) freeze drying the layer containing soluble to obtain the fermented mung bean extract rich in bioactive.

4. A method according to any preceding claim, in which step (a) comprises soaking mung beans in distilled water for mung bean hull removal, washing the dehulled mung bean; boiling the dehulled mung bean in water, draining and cooling to room temperature and drying the dehulled mung bean to a moisture content ranging from 45% to 55%.

5. A method for preparing a germinated mung bean extract comprising the steps of:

(a) soaking mung bean in water;

(b) incubating the mung bean anaerobically for a period of time to obtain germinated mung bean,

(c) drying and grinding the germinated mung bean to obtain fine powder of germinated mung bean; and

(d) extracting the germinated mung bean extract rich in bioactive from the fine powder of step (c).

6. A method according to Claim 5, in which step (d) further comprises the steps of:

(a) dissolving the fine powder of germinated mung bean in a solvent;

(b) separating a layer containing solubles;

(c) freeze drying the layer containing soluble to obtain the germinated mung bean extract rich in bioactive.

7. A method according to any preceding claim, in which the fermented mung bean comprises moisture content ranges from 3 to 7%, fat content ranges from 1.5 to 4%, protein content ranges from 27 to 37%, crude fibre content ranges from 1.5 to 3.0%; and carbohydrate content ranges from 45 to 60 %.

8. A mung bean extract produced by a method according to any preceding claim.

9. A mung bean extract according to Claim 8, which comprises antioxidant activity, anti-pigmentation activity, anti-diabetic activity, immune cell proliferation activity, immunostimulatory activity, cytotoxic activity, antistress activity or liver protective activity.

10. A mung bean extract according to Claim 8 or 9 for use as a medicament or in the treatment, co-treatment or prevention of diabetes, immunodeficiency, stress, liver damage or skin pigmentation.

11. A nutraceutical comprising a composition according to Claim 8 or 9 and a nutraceutically acceptable carrier.

12. A nutraceutical according to Claim 11, which is a food product, foodstuff, dietary supplement, nutritional supplement or a supplement composition for a food product or a foodstuff.

13. A cosmetic composition comprising a composition according to Claim 8 or 9 and a cosmetically acceptable carrier.

14. A cosmetic composition according to Claim 13 which is a skin care preparation.

CLAIMS

1. A method for preparing a fermented mung bean extract, the method comprising the steps of:

(a) providing a mung bean;

(b) inoculating the mung bean with *Rhizopus* sp.;

(c) incubating the mung bean aerobically;

(d) fermenting the mung bean anaerobically for a period of time;

(e) drying and grinding the fermented mung bean to a fine powder; and

(f) extracting the fermented mung bean extract rich in bioactive from the fine powder of step (e).

2. A method according to Claim 1, in which the *Rhizopus* sp. is *Rhizopus microsporus*.

3. A method according to Claim 1 or 2, in which step (f) further comprises the steps of:

(a) dissolving the fine powder of fermented mung bean in a solvent;

(b) separating a layer containing solubles;

(c) freeze drying the layer containing soluble to obtain the fermented mung bean extract rich in bioactive.

4. A method according to any preceding claim, in which step (a) comprises soaking mung beans in distilled water for mung bean hull removal, washing the dehulled mung bean; boiling the dehulled mung bean in water, draining and cooling to room temperature and drying the dehulled mung bean to a moisture content ranging from 45% to 55%.

5. A mung bean extract produced by a method according to any preceding claim.

6. A mung bean extract according to Claim 5, which comprises moisture content of between 3 and 7%, fat content of between 1.5 and 4%, protein content of between 27 and 37%, crude fibre content of between 1.5 and 3.0%; and carbohydrate content of between 45 and 60 %.

7. A mung bean extract according to Claim 5 or 6, which comprises antioxidant activity, anti-pigmentation activity, anti-diabetic activity, immune cell proliferation activity, immunostimulatory activity, cytotoxic activity, antistress activity or liver protective activity.

8. A mung bean extract according to any of Claims 5, 6 or 7 for use as a medicament or in the treatment, co-treatment or prevention of diabetes, immunodeficiency, stress, liver damage or skin pigmentation.

9. A nutraceutical comprising a composition according to any of Claims 5 to 8 and a nutraceutically acceptable carrier.

10. A nutraceutical according to Claim 9, which is a food product, foodstuff, dietary supplement, nutritional supplement or a supplement composition for a food product or a foodstuff.

11. A cosmetic composition comprising a composition according to any of Claims 5 to 8 and a cosmetically acceptable carrier.

12. A cosmetic composition according to Claim 11 which is a skin care preparation.