CLAIMS

1. A genetically modified bacterium devoid of 20-beta-hydroxysteroid dehydrogenase (20β-HSDH) activity or having reduced 20β-HSDH activity due to genetic modification in a gene coding a 20β-HSDH, compared to a corresponding unmodified bacterium, wherein the corresponding unmodified bacterium has Δ1-dehydrogenase activity and 20-β-dehydrogenase activity.

2. The genetically modified bacterium according to claim 1, wherein the gene coding a 20β-HSDH has at least 70% identity with sequence SEQ ID NO: 1.

3. The genetically modified bacterium according to claim 1 or 2, wherein the gene coding a 20β-HSDH is inactivated or deleted.

4. The genetically modified bacterium according to any one of claims 1 to 3, wherein the gene coding a 20β-HSDH is mutated.

5. The genetically modified bacterium according to any one of claims 1 to 4, wherein the gene coding a 20β-HSDH is truncated.

6. The genetically modified bacterium according to claim 1, wherein expression of the gene coding a 20β-HSDH is reduced or suppressed.

7. The genetically modified bacterium according to any one of claims 1 to 6, wherein the bacterium is from the family *Nocardioidaceae*.

8. The genetically modified bacterium according to any one of claims 1 to 7, wherein the genetically modified bacterium has Δ1-dehydrogenase activity.

9. A method for production of a genetically modified bacterium according to any one of claims 1 to 8 comprising:

a) providing a bacterium which has Δ1-dehydrogenase activity and 20-β-dehydrogenase activity*;* and

b) inactivating or deleting the gene coding a 20β-HSDH.

10. A method for the production of 1,2-dehydrogenated steroid comprising:

a) providing a steroid which is not 1,2-dehydrogenated;

b) contacting said steroid which is not 1,2-dehydrogenated with a bacterium according to claim 8 under conditions sufficient to obtain 1,2-dehydrogenated steroid.

11. A method for the production of 1,2-dehydrogenated steroid comprising:

a) providing a steroid which is not 1,2-dehydrogenated;

b) preparing an extract of a bacterium according to any one of claims 1 to 8 by cell lysis, wherein said extract has Δ1-dehydrogenase activity;

c) contacting the bacterium extract obtained at step b) under conditions sufficient to obtain 1,2-dehydrogenated steroid.

12. The method according to claim 10 or 11, wherein the steroid which is not 1,2-dehydrogenated is a corticosteroid.

13. The method according to any one of claims 10 to 12, wherein said steroid which is not 1,2-dehydrogenated is hydrocortisone and said method is for the production of prednisolone.

14. The method according to any one of claims 10 to 13, wherein said method further comprises recovering and purifying said 1,2-dehydrogenated steroid.

15. The method according to claim 14, which does not comprise a step of elimination of 20 β-dehydrogenated steroid.

16. The method according to any one of claims 10 to 15, which further comprises formulating the 1,2-dehydrogenated steroid into a pharmaceutical composition.

17. The method according to any one of claims 10 to 16, wherein said extract is obtained by cell-lysis of the bacterium according to one of claims 1 to 8 and optionally fractionation of the cell-lysis product in order to concentrate Δ1-dehydrogenase activity or to facilitate purification of Δ1-dehydrogenase activity.

18. The method according to claim 9, wherein step b) is realized by mutation, truncation or deletion of the gene coding a 20β-HSDH.

19. The method according to claim 9 or 18, wherein the obtained genetically modified bacterium does not comprise any exogenous DNA.