catechin having a molar equivalence ratio relative to said at least one basic amino acid or to a basic amino acid derivative (or else an amino acid precursor) of between 1 : 1 and 1 : 2.5.

The use of monomeric (+)-catechin as a treatment of cancer in mammals is known from the article by Weynant M. J., Carothers A. M., Dannenberg A. J., and Betragnolli M. M., published in 2001 in *Cancer Research*, volume 61, page 118.

This article describes the treatment of intestinal tumors in mice using pure monomeric (+)-catechin administered orally, and therefore certainly not linked to one or more amino acids. In particular, this article stipulates that, by virtue of its high bioavailability when administered orally, monomeric (+)-catechin is a promising active agent for the treatment of a wide variety of tumors of epithelial type in mammals, preferably in human beings.

Unfortunately, while this article makes promising conclusions, the latter remain hypothetical insofar as it does not demonstrate the transposition of the results from mice to humans.

Summary

In one aspect of the present disclosure, there is provided a composition comprising a compound of monomeric (+)-catechin and at least one basic amino acid, for use in the curative and/or preventive treatment of cancer, said monomeric (+)-catechin having a molar equivalence ratio relative to said at least one basic amino acid or to one basic amino acid derivative of between 1 : 1 and 1 : 2.5.

In another aspect of the present disclosure, there is provided the use of a composition comprising a compound of monomeric (+)-

catechin and at least one basic amino acid in the manufacture of a medicament for the curative and/or preventive treatment of cancer, said monomeric (+)-catechin having a molar equivalence ratio relative to said at least one basic amino acid or to one basic amino acid derivative of between 1 : 1 and 1 : 2.5.

Description

In the context of the present invention, it has been observed entirely surprisingly that the composition based on monomeric (+)-catechin and at least one basic amino acid or at least one derivative of a basic amino acid, when it is administered orally, allows treatment and prevention, preferably improved prevention, of cancer in mammals, and in particular in humans.

The anticancer action is explained by the still as yet unexplained properties of the composition according to the invention, which are the following:

- a membrane-stabilizing action;
- properties of protection of the web of the connected tissues which surround the organs of mammals; and

CLAIMS

1. A ~~gastroenteric therapeutic~~ composition ~~for oral administration,~~ comprising a compound of monomeric (+)-catechin and at least one basic amino acid, ~~said composition being characterized in that it is used~~ for use in the curative and/or preventive treatment of cancer, said monomeric (+)-catechin having a molar equivalence ratio relative to said at least one basic amino acid or to one basic amino acid derivative of between 1 : 1 and 1 : 2.5.

2. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 1, wherein said at least one basic amino acid is lysine or arginine of natural or synthetic origin, or a mixture of the two.

3. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 1 or 2, wherein said at least one basic amino acid is lysine.

4. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of the preceding claims, characterized in that it comprises at least one acid.

5. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 4, wherein said acid is chosen from ascorbic acid, acetic acid, citric acid and hydrochloric acid.

6. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 4 or 5, wherein said acid is ascorbic acid.

7. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of the preceding claims, characterized in that it also comprises one or more biocompatible excipients.

8. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of the preceding claims, wherein the content of (+)-catechin and of basic amino acid or of derivative of a basic amino acid is between 15% and 95% by weight relative to the total weight of

said composition, preferably between 60% and 90%, advantageously from 65% to 85%.

9. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of the preceding claims, in liquid form, preferably in water.

10. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 9, characterized, in 0.01 molar solution at 25°C, by a pH greater than or equal to 3, preferably of between 4 and 11, advantageously between 4.5 and 9.

11. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 8, in solid form, preferably in water-soluble solid form, in particular in the form of a powder, a tablet or a lozenge.

12. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of the preceding claims, wherein said monomeric (+)-catechin and said at least one amino acid or said at least one amino acid derivative form a complex.

13. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim ~~10~~12, characterized in that said complex is in the form of a salt of said complex, said salt comprising said complex, said complex comprising at least one proton derived from at least one acid and at least one anion derived from said at least one acid, said salt exhibiting said proton and said anion in equimolar amount relative to the amount of basic amino acid or basic amino acid derivative.

14. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim ~~10~~12, wherein said complex forms post-administration, said composition being a solid composition comprising said monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative, and optionally said acid, as a precursor of

said complex or of said salt of the complex according to a molar equivalence ratio of between 1 : 1 and 1 : 2.5.

15. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in claim 10 or 11, said composition being in solid form and comprising monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative, and optionally said acid, as precursors of said complex or of said salt of the complex, as a combined preparation for simultaneous use in solution in an aqueous phase, said complex forming pre-oral administration, said monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative being present in a molar equivalent ratio of between 1 : 1 and 1 : 2.5.

16. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 15, ~~for the preventive and/or curative treatment of~~ wherein the cancer is hepatocellular cancer.

17. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 15, ~~for the preventive and/or curative treatment of~~ wherein the cancer is leukemia~~s~~.

18. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 15, ~~for the preventive and/or curative treatment of~~ wherein the cancer is myeloma~~s~~.

19. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 15, ~~for the preventive and/or curative treatment of~~ wherein the cancer is lymphoma~~s~~.

20. The ~~gastroenteric~~ composition for ~~oral administration~~ use as claimed in any one of claims 1 to 15, wherein the cancer is ~~for the preventive and/or curative treatment of~~ liver cancer, prostate cancer, breast cancer, uterine cancer, testicular cancer, bladder cancer, kidney cancer, lung cancer, bronchial cancer, bone cancer, mouth cancer, esophageal cancer, stomach cancer, pancreatic cancer and colorectal cancer, but not exclusively.

21. The composition for use as claimed in any one of claims 1 to 20, wherein said composition is to be administered orally.

22. Use of a composition comprising a compound of monomeric (+)-catechin and at least one basic amino acid in the manufacture of a medicament for the curative and/or preventive treatment of cancer, said monomeric (+)-catechin having a molar equivalence ratio relative to said at least one basic amino acid or to one basic amino acid derivative of between 1 : 1 and 1 : 2.5.

23. The use as claimed in claim 22, wherein said at least one basic amino acid is lysine or arginine of natural or synthetic origin, or a mixture of the two.

24. The use as claimed in claim 22 or 23, wherein said at least one basic amino acid is lysine.

25. The use as claimed in claims 22 to 24, characterized in that the composition comprises at least one acid.

26. The use as claimed in claim 25, wherein said acid is chosen from ascorbic acid, acetic acid, citric acid and hydrochloric acid.

27. The use as claimed in claim 25 or 26, wherein said acid is ascorbic acid.

28. The use as claimed in any one of claims 22 to 27, characterized in that the composition also comprises one or more biocompatible excipients.

29. The use as claimed in any one of claims 22 to 28, wherein the content of (+)-catechin and of basic amino acid or of derivative of a basic amino acid is between 15% and 95% by weight relative to the total weight of said composition, preferably between 60% and 90%, advantageously from 65% to 85%.

30. The use as claimed in any one of claims 22 to 30, wherein the composition is in liquid form, preferably in water.

31. The use as claimed in claim 30, wherein the composition is in 0.01 molar solution at 25°C, by a pH greater than or equal to 3, preferably of between 4 and 11, advantageously between 4.5 and 9.

32. The use as claimed in any one of claims 22 to 29, wherein the medicament is in solid form, preferably in water-soluble solid form, in particular in the form of a powder, a tablet or a lozenge.

33. The use as claimed in any one of claims 22 to 32, wherein said monomeric (+)-catechin and said at least one amino acid or said at least one amino acid derivative form a complex.

34. The use as claimed in claim 33, characterized in that said complex is in the form of a salt of said complex, said salt comprising said complex, said complex comprising at least one proton derived from at least one acid and at least one anion derived from said at least one acid, said salt exhibiting said proton and said anion in equimolar amount relative to the amount of basic amino acid or basic amino acid derivative.

35. The use as claimed in claim 33, wherein said complex forms post-administration, said composition being a solid composition comprising said monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative, and optionally said acid, as a precursor of said complex or of said salt of the complex according to a molar equivalence ratio of between 1 : 1 and 1 : 2.5.

36. The use as claimed in claim 31 or 32, said medicament being in solid form and comprising monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative, and optionally said acid, as precursors of said complex or of said salt of the complex, as a combined preparation for simultaneous use in solution in an aqueous phase, said complex forming pre-oral administration, said monomeric (+)-catechin and said at least one basic amino acid or said at least one basic amino acid derivative being present in a molar equivalent ratio of between 1 : 1 and 1 : 2.5.

37. The use as claimed in any one of claims 22 to 36, wherein the cancer is hepatocellular cancer.

38. The use as claimed in any one of claims 22 to 36, wherein the cancer is leukemia.

39. The use as claimed in any one of claims 22 to 36, wherein the cancer is myeloma.

40. The use as claimed in any one of claims 22 to 36, wherein the cancer is lymphoma.

41. The use as claimed in any one of claims 22 to 36, wherein the cancer is liver cancer, prostate cancer, breast cancer, uterine cancer, testicular cancer, bladder cancer, kidney cancer, lung cancer, bronchial cancer, bone cancer, mouth cancer, esophageal cancer, stomach cancer, pancreatic cancer and colorectal cancer, but not exclusively.

42. The use as claimed in any one of claims 22 to 41, wherein said medicament is to be administered orally.