Claims

~~1. A sanguisorba tannins extract, wherein said extract comprises 35% 100% (w/w) of tannins, less than 10% (w/w) of total saponins, and less than 5% (w/w) of sanguisorbin I~~.

8~~2~~. The use ~~extract~~ according to claim 1 or 5, wherein said extract contains 50%-100% (w/w) of tannins.

9~~3~~. The use ~~extract~~ according to claim 8~~2~~, wherein said extract contains 55%-100% (w/w) of tannins.

10 ~~4~~. The use ~~extract~~ according to claim 1 or 5 or 8~~2~~, wherein said extract comprises less than 7.2% (w/w) of total saponins, and less than 4.9% (w/w) of sanguisorbin I.

11~~5~~. The use ~~extract~~ according to claim 10 ~~4~~, wherein said extract comprises less than 0.001% (w/w) of total saponins, and less than 0.0001% (w/w) of sanguisorbin I.

12~~6~~. The use ~~extract~~ according to claim 1 or 5 or 8~~2~~, wherein said sanguisorba tannins comprises 0.05% to 3.0% by weight of sanguiin, 1.0% to 5.0% by weight of catechin, and 0.05% to 1.5% by weight of proanthocyanidin B2, all calculated based on said extract.

13~~7~~. The use ~~extract~~ according to claim 12~~6~~, wherein said sanguisorba tannins comprises 1.0% to 2.0% by weight of sanguiin, 2.0% to 4.0% by weight of catechin, and 0.05% to 0.4% by weight of proanthocyanidin B2, all calculated based on said extract.

14~~8~~. The use ~~extract~~ according to any one of claims 1 or 5, 8 to 13~~7~~, wherein said extract originates from dried roots of *Sanguisorba officinalis L* or *Sanguisorba officinalis L. var.longifolia (Bert.) Yu et Li* of *Rosaceae*.

15~~9~~. The use ~~extract~~ according to any one of claims 1 or 5, 8 to 13~~7~~, wherein said extract is prepared through the following steps:

1) extraction: grinding Garden Burnet Root into coarse powders, extracting it with water, alcohol, hydrous ethanol, acetone or hydrous acetone, and obtaining a concentrated solution after filtration and concentration;

2) purification: treating the concentrated solution obtained in step 1) with common tannins separation method, thus obtaining the sanguisorba tannins extract.

16~~10~~. The use ~~extract~~ according to claim 15~~9~~, wherein said common tannins separation method comprises chromatography method, protein precipitation method, solvent method or the combination thereof.

17~~11~~. The use ~~extract~~ according to claim 16~~10~~, wherein in said chromatography method, the absorption is carried out with gel and macro-porous adsorption resin.

18~~12~~. The use ~~extract~~ according to claim 16~~10~~, wherein in said protein precipitation method the precipitation is carried out with gelatin.

19~~13~~. The use ~~extract~~ according to claim 16~~10~~, wherein in said solvent method, aqueous solution containing the concentrated solution is defatted and then extracted by ethyl acetate so as to obtain the sanguisorba tannins extract;

alternatively, the concentrated solution is dissolved in ethanol and ethyl acetate, and the extract is precipitated through adding ethyl ether or petroleum ether.

20~~14~~. The use ~~extract~~ according to any one of claims 15~~9~~ to 19~~13~~, wherein said extract is prepared through the following steps:

1) extraction: grinding Garden Burnet Root into coarse powders, extracting it with water, alcohol, 10%-90% hydrous ethanol, acetone or 50%-90% hydrous acetone, and obtaining a concentrated solution after filtration and concentration;

2) purification: adsorbing and purifying the concentrated solution with macroporous adsorption resin, wherein it is eluted with water into colorless, then with 10% ethanol, finally with 60% ethanol, and collecting the elution with 60% ethanol, thus obtaining the sanguisorba tannins extract after drying;

alternatively, defatting the concentrated solution and then extracting it with ethyl acetate, thus obtaining the sanguisorba tannins extract.

21~~15~~. The use ~~extract~~ according to claim 20~~14~~, wherein said macroporous adsorption resin is non-polar resin or low-polar resin.

22~~16~~. The use ~~extract~~ according to claim 21~~15~~, wherein said macroporous adsorption resin is DA-201 macroporous adsorption resin, D-101 macroporous adsorption resin, LSA-20 macroporous adsorption resin, HP-10 macroporous adsorption resin or AB-8 macroporous adsorption resin.

23~~17~~. A process for preparing the extract of claim 1 or 5, wherein comprising the following steps:

1) extraction: grinding Garden Burnet Root into coarse powders, extracting it with water, alcohol, hydrous ethanol, acetone or hydrous acetone, and obtaining a concentrated solution after filtration and concentration ;

2) purification: treating the concentrated solution with common tannins separation method, thus obtaining the sanguisorba tannins extract.

24~~18~~. The process according to claim 23~~17~~, wherein said common tannins separation method comprises chromatography method, protein precipitation method, solvent method or the combination thereof.

25~~19~~. The process according to claim 24~~18~~, wherein in said chromatography method the absorption is carried out with gel and macro-porous adsorption resin.

26~~20~~. The process according to claim 24~~18~~, wherein in said protein precipitation method the precipitation is carried out with gelatin.

27~~21~~. The process according to claim 24~~18~~, wherein in said solvent method, aqueous solution containing the concentrated solution is defatted and then extracted by ethyl acetate so as to obtain the sanguisorba tannins extract;

alternatively, the concentrated solution is dissolved in ethanol and ethyl acetate, and the extract is precipitated through adding ethyl ether or petroleum ether.

28~~22~~. The process according to any one of claims 23~~17~~ to 27~~21~~, wherein said extract is prepared through the following steps:

1) extraction: grinding Garden Burnet Rootinto coarse powders, extracting it with water, alcohol, 10%-90% hydrous ethanol, acetone or 50%-90% hydrous acetone, and obtaining a concentrated solution after filtration and concentration;

2) purification: adsorbing and purifying the concentrated solution with macroporous adsorption resin, wherein it is eluted with water into colorless, then with 10% ethanol, finally with 60% ethanol, and collecting the elution with 60% ethanol, thus obtaining the sanguisorba tannins extract after drying;

alternatively, defatting the concentrated solution and then extracting it with ethyl acetate, thus obtaining the sanguisorba tannins extract.

2923. The process according to claim 2822, wherein said macroporous adsorption resin is DA-201 macroporous adsorption resin, D-101 macroporous adsorption resin, LSA-20 macroporous adsorption resin, HP-10 macroporous adsorption resin or AB-8 macroporous adsorption resin.

124. Use of the sanguisorba tannins extract according to any one of claims 1 to 16 for preparing medicaments for protecting bone marrow,

wherein said sanguisorba tannins extract comprises 35%-100% (w/w) of tannins, less than 10% (w/w) of total saponins, and less than 5% (w/w) of sanguisorbin I.

225. The use according to claim 124, wherein said medicaments are used to prevent and/or treat bone marrow inhibition.

326. The use according to claim 124 or 225, wherein said medicaments are used to prevent and/or treat normal bone marrow cell inhibition caused by radiotherapy or chemotherapy.

427. The use according to claim 326, wherein said medicaments are used to prevent and/or treat anemia, leucopenia or thrombocytopenia, preferably leucopenia, caused by radiotherapy or chemotherapy.

528. Use of the sanguisorba tannins extract according to any one of claims 1 to 16 for preparing medicaments for the treatment of leucopenia,

wherein said sanguisorba tannins extract comprises 35%-100% (w/w) of tannins, less than 10% (w/w) of total saponins, and less than 5% (w/w) of sanguisorbin I.

29. Use of sanguiin and proanthocyanidin B2 for preparing medicaments for protecting bone marrow.

30. The use according to claim 29, wherein said medicaments are used to prevent and/or treat bone marrow inhibition.

31. The use according to claim 29 or 30, wherein said medicaments are used to prevent and/or treat normal bone marrow cells inhibition caused by radiotherapy or chemotherapy.

~~32. The use according to claim 31, wherein said medicaments are used to prevent and/or treat anemia, leucopenia, or thrombocytopenia, preferably leucopenia, caused by radiotherapy or chemotherapy.~~

~~33. Use of sanguiin or proanthocyanidin B2 for preparing of medicaments for the treatment of leucopenia.~~

6~~34~~. A pharmaceutical composition for preventing or treating bone marrow inhibition or leucopenia, wherein comprises an effective amount of ~~sanguiin, proanthocyanidin B2 or the~~ sanguisorba tannins extract ~~according to any one of claims 1-16 as active ingredients,~~ and is prepared to common formulation by adding pharmaceutically acceptable adjuvants or ancillary components,

wherein said sanguisorba tannins extract comprises 35%-100% (w/w) of tannins, less than 10% (w/w) of total saponins, and less than 5% (w/w) of sanguisorbin I.

7~~35~~. The medical composition according to claim 6~~34~~, wherein said formulation is an oral formulation.

~~36. Use of the sanguisorba tannins extract according to any one of claims 1-16 together with tumor chemotherapeutics for preparing medicaments for the combined treatment of anti-tumor.~~

~~37. The use according to claim 36, wherein said tumor chemotherapeutics are alkylating agent.~~

~~38. The use according to claim 37, wherein said tumor chemotherapeutics are cyclophosphamides.~~

~~39. The use according to claim 36, wherein said medicaments for the combined treatment of anti-tumor is the combined medicaments for the treatment of lung cancer.~~

~~40. A medical composition for anti-tumor, wherein it is an formulation prepared from an effective amount of tumor chemotherapeutics, the sanguisorba tannins extract according to any one of claims 1-16 as active ingredient, and pharmaceutically acceptable adjuvant.~~

~~41. The medical composition according to claim 40, wherein said tumor chemotherapeutics are alkylating agent.~~

~~42. The medicinal composition according to claim 41, wherein said tumor chemotherapeutics are cyclophosphamides.~~