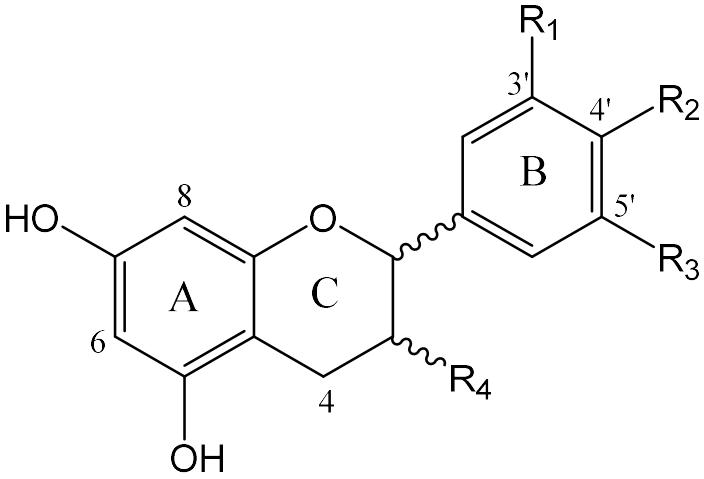
What is claimed is:

[Claim 1]. A pharmaceutical composition comprising an effective amount of proanthocyanidin, wherein the monomer units of the proanthocyanidin have the following formula:



wherein, when R_1 is OCH_3, R_2 is OH and R_3 is H, when R_1 is OH, R_2 is H and R_3 is H, when R_1 is OH, R_2 is OH and R_3 is H, or when R_1 is OH, R_2 is OH and R_3 is OH; and R_4 is 3-(α)-OH, 3-(β)-OH, 3-(α)-O-sugar or 3-(β)-O-sugar; wherein the proanthocyanidin has a degree of polymerization ranging from 55 to 60; wherein the monomer units of the proanthocyanidin are bonded to each other via C4-C8 bonding, C4-C6 bonding, or C2-C7 bonding; and a pharmaceutically acceptable carrier or salt;

wherein the proanthocyanidin being obtained from roots and stems of Boehmeria nivea L. Gaud. medicinal material.

[Claim 2]. The pharmaceutical composition according to claim 1, wherein the monomer units of the proanthocyanidin comprise R or S optical isomers at C2, C3 or C4.

[Claim 3]. The pharmaceutical composition according to claim 1, wherein the flavonoid compounds comprise gallocatechin, galloepicatechin or epigallocatechin.

[Claim 4]. The pharmaceutical composition according to claim 1, wherein the pharmaceutical composition comprises catechin, epicatechin, epiafzelechin, gallates, flavonols, flavandiols, leucocyanidins or procynidins.

[Claim 5]. The pharmaceutical composition according to claim 1, wherein the pharmaceutical composition comprises flavan-3-ol.

[Claim 6]. The pharmaceutical composition according to claim 1, wherein the pharmaceutically acceptable salt includes sodium salt, potassium salt, amine salt, magnesium salt, calcium salt,

zinc salt, aluminum salt, zirconium salt, dicyclohexylamine salt, methyl-D-glucosamine salt, arginine salt, lysine salt, histidine salt or glutamine salt.

[Claim 7]. The pharmaceutical composition according to any one of claims 1-6, for use in treatment or prevention of brain diseases, aging related diseases caused by the generation of active oxides.

[Claim 8]. The pharmaceutical composition according to any one of claims 1-6, for use in treating or preventing diseases including liver disease, tumor and sarcopenia.

[Claim 9]. Use of the pharmaceutical composition according to any one of claims 1-6, in the manufacture of a medicament for use in treating or preventing brain diseases, liver diseases, tumor, sarcopenia, and aging related diseases caused by the generation of active oxides.

[Claim 10]. A method for preparing a pharmaceutical composition comprising an effective amount of proanthocyanidin, the method comprising:

providing roots and stems of *Boehmeria nivea* L. Gaud. medicinal material;

drying, grinding, and sieving the roots and stems prior to extraction;

extracting the processed roots and stems with 95% ethanol to obtain an extract;

subjecting the extract to solid–liquid separation;

concentrating and drying the resulting extract to obtain a proanthocyanidin-containing mixture;

subjecting the proanthocyanidin-containing mixture to solvent partitioning extraction using hexane, ethyl acetate, and n-butanol to remove lipids and impurities, thereby obtaining a purified proanthocyanidin-containing *Boehmeria nivea* L. Gaud. extract;

purifying the obtained extract by gel permeation chromatography using Sephadex LH-20 to obtain a proanthocyanidin-enriched fraction; and

optionally formulating the proanthocyanidin-enriched fraction with a pharmaceutically acceptable carrier or salt to obtain a pharmaceutical composition;

wherein the proanthocyanidin comprises a polymer having monomer units of a structure as defined in Claim 1, has a degree of polymerization ranging from 55 to 60, and the monomer units are linked via C4–C8, C4–C6, or C2–C7 interflavonoid linkages.