Title: COMPOSITION FOR TREATING HYPERLIPIDEMIA

Abstract: It is disclosed a combinatory preparation for treating hyperlipidemia and/or hypercholesterolemia comprising pyrrolizidine alkaloids and preferably whole, parts or and/or a leeching or extract of a plant from the family Asteraceae and preferably Gynura divaricata DC in combination with one or more other lipid and/or cholesterol-reducing substances. The combinatory preparation displays an improved effect as compared to other synthetic cholesterol-reducing medications.
Composition for treating hyperlipidemia

Ambit of the invention.

The present invention concerns a combination for treating hyperlipidemia/hyperliidemic disesae and hypercholesterolemia/hypercholesterolemic disease comprising pyrrozilidine alkaloids and preferably entire, parts of and/or a leach or extract of the plant *Gynura divaricata DC* of the family *Asteraceae* in combination with one or more lipid- or cholesterol-reducing substances. The invention also concerns the entire, parts of and/or a leach or extract the plant *Gynura viaricata DC* of the family *Asteraceae* for producing a medication comprising additionally one or more other lipid- or cholesterol-reducing substances for treating hyperlipidemia and/or hypercholesterolemia. Such a medication may additionally include one or more expients, diluents and/or carriers as well as colorants, taste additives, consistency-regulating substances and other non-active materials.

Background for the invention.

Hyperlipidemic disease is caused by a number of genes disposing the afflicted person for high lipid values in the blood, e.g. high values of triglycerides and high values of cholesterol or the disease may have a foundation in the lifestyle of the afflicted person through the intake and digestion of food with high amounts of fat combined with an inactive way of living. When afflicted with hyperlipidemia the cholesterol values may be moderately elevated and is not often located about 6-8 mmol/l. The line of heritage may be that the hyperlipidemic disease appears randomly scattered in the family having as a consequence that not everyone in a family inherits the disposition for the disease.

One form of hyperlipidemia is hypercholesterolemia and particularly familial hypercholesterolemia. Familial hypercholesterolemia is a so-called dominant inheritable disease where there exists a high probability for inheriting the condition. The risk for hypercholesterolemia may be present if one of the parents has one healthy and one afflicted gene (so-called heterozygote) and the other parent is healthy, in which case there may exist a 50 % possibility for a child to inherit the disease, or if one of the parents has two afflicted genes (homozygote) and the other parent is healthy, in which case all of the offspring become afflicted; or if both the parents possess an afflicted gene, in which case there is a 75 % chance for a child to inherit the disease; or if both the parents have afflicted genes, in which case all of the children become ill (and
additionally will become homozygote with a disposition for the disease being inheritable).

The disease is characterized in the formation of deposits of fat in the area around the eyes and along tendons. The disease is observed in 1 out of 400 persons, but represents 5% of all the cases of infarction of the heart/stroke. These persons also have an elevated risk for blood vessel disease in the heart. In heterozygotes the total cholesterol values will frequently lie between 8 and 12 mmol/l. In homozygotes the values of the total cholesterol will frequently lie above 20 mmol/l. The normal cholesterol values lie conventionally below 6 mmol/l.

There may also appear a condition called familial combined hyperlipidemia. This condition is normally found in 1 of 50-100 persons. The disease gives an equally large risk for blood vessel disease of the heart as familial hypercholesterolemia. The total cholesterol is in this case normally 7-9 mmol/l and the triglyceride level lies above 2 mmol/l in the blood.

Additionally there may appear in humans a condition with elevated lipid values in the blood called metabolic syndrome. This is a condition wherein the normal total cholesterol, HDL cholesterol (HDL = High Density Lipoproteins) is reduced and the triglyceride values are elevated. At the same time these patients have an elevated blood pressure and a reduced tolerance for sugar, i.e. many develop diabetes. A phenotypic feature in such persons is the tendency of belly fat.

A number of diseases and medications may also contribute to the development of hyperlipidemia. This may be relevant for diabetes, affliction in the thyroid gland (hyperthyreosis), kidney and liver disease, a high intake of alcohol, the use of certain urinating medications, beta blockers may additionally contribute negatively and the same may be relevant for cortisone preparations and estrogens.

The diagnosing of hyperlipidemia/hypercholesterolemia may be conducted by determining the presence of such compounds in the blood and comprises the determination of total cholesterol, HDL cholesterol and triglycerides. The value of LDL (LDL = Low Density Lipoproteins) cholesterol may be calculated based on the value of these components in the blood. The measurement of blood glucose is conducted to investigate if there is present a case of diabetes. In cases of cholesterol values above 8 an isolated appearance of increased triglycerides, there is apart from the determination of blood sugar, also taken the levels of metabolite hormones, liver samples, kidney
samples and the urine is examined for the appearance of proteins (kidney damage). In many cases there may also be conducted examination of the heart for signs of heart damage, e.g. by using ECG (electrocardiogram).

In cases where it is not sufficient of possible to treat hyperlipidemia with changes in the lifestyle, the afflicted persons are treated medically. Normally used criteria for treating increased values of lipids/cholesterol in the blood is one or more or combinations of:

- Total cholesterol above 5,0 mmol/l
- A ratio between the values for total cholesterol and HDL cholesterol above 4
- LDL cholesterol above 3,0 mmol/l
- Triglyceride levels above 2,0 mmol/l
- HDL cholesterol below 1,0 mmol/l

Examples of cases wherein treatment against increased values of lipids/cholesterol is recommended are:

- At cholesterol values between 6,5 -7,9 and LDL cholesterol above 5,0 or at a ratio between LDL and HDL of above 5
- A total cholesterol above 8
- The LDL cholesterol is continuously above 5 or the ratio between LDL and HDL is continuously above 5.

Secondary diseases that may occur in hyperlipidemia are inter alia stroke an infarct/heart disease. This is caused by deposits of fat and cholesterol in the walls of blood vessels and capillaries. Such secondary diseases drains yearly the society for large values since afflicted persons are on prolonged sick leaves, become unable to work and have to use medications for having a normal life quality. The use of large quantities of medications, however, represents a strain on the afflicted persons both with respect having to adapting a rigid medicament regimen and also with respect to side effects when ingesting large amounts of or strong medications (or both). This is relevant both concerning treatment with one medication as well as a treatment with a combination of medicaments.

In relation to self medication, medicaments taken orally are those that most easily make the recommended or prescribed medication to be performed. Consequently it is a further advantage to be able to present medications being more effective (than previously known medications against the same condition/disease) and that
simultaneously my be taken orally. This is consequently relevant for oral administration forms such as pills, capsules, syrups, elixirs, powders, lozenges, etc. In self-medication it is a further advantage to be able to rely on the ingestion of as few units (pills etc.) of the medication as possible. To ingestion of a medication regimen comprising several units makes it possible to mix up which and how many pills that have been ingested, so there exists an increased risk for the medication per se to become erroneous. This is a drawback concerning e.g. elderly as well as partially demented persons or persons that habitually are easily distracted. Additionally a larger intake of pills is a strain per se for the patient to the extent that certain persons will sabotage the medication out of spite.

Consequently there is a large need for improving the existing medications by providing better working and more efficient compositions and combinations with weaker and/or less side effects and wherein the administration load is reduced.

Prior art

There are previously known several medications against elevated cholesterol (statins). Examples of such medications are "Ezetrol", "Liptor", "Crestor" and "Wellchol" and it may also be used "Tenormin" and "AlbylE" or combinations of two or more thereof. These medications are present and are used as pills, and a continuous and/or high intake of such pills have several and more or less serious side effects while the strain of ingesting an arsenal of pills per se is deterrent and cumbersome for patients so in many cases there may be conducted a sloppy self medication.

Concerning the plant *Gynura divaricata DC* preparations of this plant are know to have several effects.

It is thus known from Chinese patent CN 101278957 a preparation from *Gynura divaricata DC* to be used in connection wit the treatment of cancer. However, nothing concerning the treatment of hyperlipidemia or hypercholesterolemia is mentioned.

From Chinese patent CN 1899342 there are known oral formulations based on traditional Chinese medicine for treating diabetes, reduction of cholesterol in the blood and the prevention of hyperlipidemia. The preparation may be used in connection with other natural preparations (isoflavonoids from soy bean, flavonoids from the gingko leaf and all flavonoids from the kudzu root), but the combinational effect of these compositions have not been found to be specified.
From ABC Thesis Site (www.abclunwen.com/lunwen-free-301 003/) People's Republic of China, Ministry of Information Industry, Net IPC, 2010.06.30 there are known chemical components from Gynura divaricata DC, inter alia hepatotoxic pyrrozilidine alkaloids reducing serum glucose, total cholesterol and triglycerides in test mice. Combination preparations with further lipid and cholesterol reducing substances are, however, not mentioned.

From an article of Zhang X. et al. (Singapore Medical Journal, vol. 41, no. 1, 2000) it is know that Gynura procumbens previsouly has been used for controlling diabetes mellitus and hyperlipidemia.

From an article by Gather, Health, "Garden Greens, the so-called spinaches", copyright 2010 Gather Inc. 2010.04.24, p. 1-3 it is known that the leaves from the plant Gynura divaricata DC have been used as tea with blood glucose reducing properties. Gynura divaricata is called Bai Bei San Qi in China and is used in connection with treating inter alia bronchitis, pulmonary tuberculosis and diabetes. Furthermore it is disclosed in this article that a spinach plant growing in the Maluku Islands in Indonesia (Gynura divaricata, Dawn or Daun Dewa) is known from the folklore medicine to reduce the cholesterol. However, this effect has not been substantiated.

An article by K. Mangathayaru et al., Journal of Phamacy and Pharmacology, vol. 61, no. 8, 2009, p. 1111-1118 discloses Inula racemosa Hook belonging to the family Asteraceae and the effects of different extracts on experimental atherosclerosis in pigs. Common for many of the plants belonging to this family, included Inula racemosa, is that they contain pyrrozilidine alkaloids. The results show that an alcoholic extract from the plant reduced total cholesterol, triglycerides and the LDL cholesterol while increasing the HDL cholesterol as compared to a positive control. There was not added any pyrrozilidine alkaloids beyond what was present in the plant.

From an article by Z. Ma et al., Zhongcaoyao, vol. 41, no. 4, 2010 concerning the hypoglycemic effects hypoglycemic effects of an aqueous extract from Gynura divaricat (L.) DC on rats with type 2 diabetes mellitus, it appears that the aqueous extracts significantly reduced the levels of inter alia blood glucose, total cholesterol and triglycerides and had a significantly therapeutic effect on type 2 diabetes mellitus.

The plant Gynura divaricata grows in the East (China, Thailand, etc.) and is a shrub with a green stem and grow-willing branches that in the winter ripens and have yellow flowers (Harborne et al., Phytochemical Dictionary: A Handbook of Bioactive
Compounds from Plants, 2\textsuperscript{nd} ed. Padstow: TJ International, 1999: P. 976). It is called Jakr-Na-Rai or Jin-Chee-Muo-Yea locally and is found in two types, namely a round-leafed type cled Pae-Tum-Poung with soft light-green leaves covered with velvety hairs on both the dorsal and ventral surfaces and where the branches are red-green; and Jin-Chee-Muo-Yea having long leaves with a smooth surface and sparse hairs and that originates from China (but is also used in Thailand). The leaves and branch shoots are traditionally used for treating diabetes, hypertension, heart diseases, allergies, asthma, cancer, obesity, atherosclerosis, stomach diseases and kidney stone (Promrungraeng, M. et al., Cure all medicinal plant (March 19. 2007, to be found on http://www.navy.mi.th/nawboard/boarditem3.php).

General disclosure of the invention.

It has now surprisingly an conveniently been discovered that a composition of entire, sections of and/or a leeching or an extract of the plant \textit{Gynura divaricata DC} of the family \textit{Asteraceae} in combination with one or several other lipid and/or cholesterol-reducing substances provides a medication wherein the hyperlipidemic and hypercholesterolemic effect is synergistically increased or enhanced. Thus in one aspect the invention concerns the use of whole, sections of and/or a leeching or extract of the plant \textit{Gynura divaricata DC} of the family \textit{Asteraceae} for producing a medication with a synergistically increased or enhanced lipid and/or cholesterol-reducing effect comprising additionally one or more other lipid and/or cholesterol-reducing substance for producing a medication for treating hyperlipidemia and/or hypercholesterolemia. Such a medication may additionally comprise one or more excipients, diluents and/or carriers as well as colorants, taste additives, consistency-regulating substances and other non-active materials or substances.

Carriers for the medications/combinations according to the present invention are such that conventionally are used for the relevant oral administration forms. E.g. there may be used liquid solutions comprising water and/or ethanol and/or edible fats and/or oils (water-in-oil emulsions or oil-in-water emulsions) all optionally containing different types of sweeteners (sugar types such as glucose, fructose sucrose, mannose, etc. and/or artificial sweeteners such as saccharose, xylitol, etc.). Furthermore it is possible to use conventional solid carriers and/or additives for dry oral medications (e.g. alum, calcium carbonate, etc. or mixtures of dry and moist additives for making soft tablets.
The medications according to the present invention may also exist as capsules wherein such capsules may contain a mixture of each component, e.g. as dry powders or as lyophilized powders, or the capsules may be multi-compartment capsules wherein each medication is present separated by the aid of e.g. a septum. Such capsules may be made of e.g. gelatin (soft or hard) or some other type of edible polymer.

The basis for the present invention is the surprising, unexpected and favorable effect that a mixture of whole, parts of, an extract or a leeching of the plant *Gynura divaricata DC* together with a conventional lipid and/or cholesterol-reducing substance provides a synergistically enhanced lipid- and cholesterol-reducing effect of such medications diminishing the need for taking excessive amounts conventional corresponding medications. Said combination provides a combined and seemingly synergistic effect concerning he lowering of the lipid cholesterol values in the blood. This makes it possible to produce orally ingestible medications with an improved lipid and cholesterol-reducing effect comprising a mixture of said plant, plant parts, extract and/or leeching and/or dried parts and/or lyophilized powder together with one or more of the conventional cholesterol-reducing medications, than what was possible by using the prior state of the art. The presence of the conventional lipid and/or cholesterol-reducing medication may be reduced up to 10-fold as compared to the intake of the same medication without the presence of the substance(s) according to the present invention.

The material from the plant *Gynura divaricata DC* may be present in the form indicated supra, i.e. in the form of whole or parts of the plant, dried plant or parts of the plant, an extract or a leeching from the plant or lyophilized plant, parts of the plant, leeching or extract, or as mixtures of these forms of the plant.

A further advantage with a combination preparation according to the invention is that the extract, leeching and/or powdered plant part provides an extraordinarily rapid cholesterol-reducing effect being lasting and that works in synergistic cooperation with the cholesterol-reducing effect of the conventional cholesterol-reducing medication. This has the effect that in addition to making it possible to reduce the intake or the amount of the conventional cholesterol-reducing medication(s), it will also speed up the cholesterol-reducing effect of the combinatory medication as compared to what was possible with the cholesterol-reducing medications(s) alone. Furthermore, this makes it possible to reduce the pill-burden of the individual patient, reduce the side-effects of the conventional medication(s) while providing a faster cholesterol-reducing effect of the
combinatory medication according to the invention as compared to what was possible with the conventional preparation(s) alone.

Examples of materials from the plant *Gynura divaricata* DC to include in the combinatory preparation according to the invention are leaves, stems or shoots, possibly in dried form. Such plant parts, and particularly the leaves, may be dried and ground to a powder. This powder may be used directly as an additive to the conventional cholesterol-reducing substance(s) or may be used as a starting material for a leeching e.g. in the form of an aqueous leeching or an alcoholic leeching. It may also be possible to press or squeeze or pulp the plant to obtain a juice (e.g. by straining a mash of the plant through a cloth) and subsequently drying this extract (e.g. by air-drying at room temperature to avoid destroying the active components in the extract, or by lyophilizing the extract). If the above said powder or dried or fresh leaves or plant parts are leched in water or alcohol (96% ethanol, 60% ethanol or 40% ethanol mixed with water) there will be formed a leeching that in its turn may be dried at room temperature or by lyophilizing, as mentioned supra. The leeching may be used as such as a component in the combinatory preparation according to the invention, e.g. as a liquid component incorporated in a carrier together with at least one further conventional cholesterol-reducing medication), or the dried powder may be used as a dry component in such a combinatory preparation.

One possible way to form a leeching/extract from the plant parts, especially the leaves, of the plant *Gynura divaricata* DC is to leech dried leaves or a powder of dried and ground leaves from the plant for an interval of 3 - 15 minutes, preferably 5 - 10 minutes, e.g. 5, 6, 7, 8 or 9 minutes in boiling water (100°C). This aqueous leeching/extract may be used as such as the synergistically working component in the combinatory preparation according to the invention (e.g. if the combinatory preparation is a mixture or elixir or some other form of liquid oral medication), or it may be dried as explained supra and be used in a combinatory preparation according to the invention as a dry powder e.g. in a pill or capsule mixed with the at least one other cholesterol-reducing conventional medication together with excipients and/or carriers.

The amount of plant preparation that is to be added to the relevant combinatory preparation according to the invention will relate to if the relevant substance is a wet extract, a dried extractor a leeching or natural or dried plant parts (leaves). In relation to a powder of dried plant parts, an effective amount will be from 100 mg or more such as 200 mg or more, 500 mg or more, 800 mg or more, 1000 mg or more or 2000 mg or more. The upper limit to the plant substance additive is limited more on account of
practical than medical considerations since an amount of 10 000 mg will give far too large an amount to be ingested easily, but the intake of such an amount has not been found to give any unwanted side effects medicinally. An amount in a combinatory preparation together with the other cholesterol-reducing substance(s) will give a reduction in the intake of the other conventional cholesterol-reducing substance of between 1 to 10 times (i.e. an intake of an amount of conventional medicine corresponding to 2 tablets may be lowered to an amount of the same substance corresponding to 1 tablet in a combination with the plant powder/extract mentioned supra and up to a conventional intake of a prior art cholesterol-reducing medication corresponding to 10 tablets may be reduced to an intake of an amount corresponding to 1 tablet by combining the conventional medicine with the plant powder/extract disclosed supra).

Detailed disclosure of the invention.

The combinatory preparation and the use according to the present invention will be more closely illuminated infra with reference to examples showing the combined effect of such a combinatory preparation. There will also be provided comparative examples illuminating the synergistic effect of the combinatory preparation according to the invention. None of the examples should be construed as limiting to the scope of the present invention.

Examples.

Example 1:

A male patient, 55 years of age, established hypercholesterolemia from the age of 39 with a cholesterol level in the blood of 13, was medicated daily since the diagnosis date for hypercholesterolemia with the medications "ezetrol" (10 mg, 1 tablet), "liptor" (10 mg, 1 tablet) and "wellchol" (625 mg, 6 tablets) giving a tablet load of 8 tablets daily. Despite this combinatory treatment the cholesterol levels of this person still remained between 6 and 7.5 (against a normal value of 5 or less).

As an alternative the medication "liptor" was replaced with with the cholesterol-reducing substance "crestor" (10 mg, 1 tablet) without this having any effect on the cholesterol-reducing efficacy of the conventional preparations given to the patient.
Initially the test was conducted by the above specified conventional medication composition being further combined with the intake of 1 g ground and dried powder of the plant *Gynura divaricata DC*. This gave a rapid (1 month) and lasting reduction of the cholesterol values down to below 5 (normal level).

Furthermore, by combining the intake of 1 teaspoon (1 g) of dried leaves from the plant *Gynura divaricata DC* with the conventional cholesterol-reducing "crestor", it was possible to reduce the intake of tablets to 1 tablet daily (20 mg), and with this medication there were obtained lasting (1 year) cholesterol values in the blood of 4.3 to 4.7.

Synergy between the plant relevant plant material (from the plant *Gynura divaricata DC*) and the conventional cholesterol-reducing medications is presented as results from monthly cholesterol measurements taken during a period of 1 year with the above mentioned combination of conventional cholesterol-reducing medicines ("ezetrol", "liptor" and "wellchol"). The mean cholesterol values during the relevant period was 6.6. This value should for a normal person lie below 5 and is clearly too high despite a significant pill burden to the patient. The medication of the patient was changed (the combinations "Tenormin" (25 mg), "albyl-E" (160 mg), "ezetrol" (10 mg) and "crestor" (5 mg) as well as the combination "Tenomín" (25 mg), "albyl-E" (160 mg) and "ezetrol" (10 mg) without this having any effect on the mean cholesterol values in the blood.

The medication regimen of conventional cholesterol-reducing substances indicated supra was then taken together with the intake of 1 g of the plant extract indicated supra, rapidly reducing the cholesterol levels of the patient to below normal values, and it was even possible to reduce the pill burden of the patient to 1 tablet daily.

In the examples 2 - 5 infra there is shown the cholesterol-reducing effect of the intake of different forms of aqueous leechings and extracts or powders from the plant *Gynura divaricata DC* on hyperlipidemic persons. In example 2 the extract was produced by boiling ground leaves from *Gynura divaricata DC* for 5 minutes at 100°C. The residue from the leaves was filtered from the liquid through a cloth, and the liquid was taken as a tea as soon as the temperature had reached drinkable temperature (about 50°C or below). The examples are presented to show the very rapid cholesterol-reducing effect of such an extract as well as indicating the synergistic effect of the combination according to the invention since the plant extract alone had a cholesterol-reducing
effect, but not as significant as when combined with the conventional cholesterol-reducing medications.

Example 2:

A woman, age 29 years with established hypercholesterolemia (initial cholesterol value in the blood of 9.3) and without additional medication took an aqueous extract (2 dl water) from 1 g of crushed leaves from *Gynura divaricata DC* once daily. The cholesterol value was reduced to 7.9 after 40 days.

Example 3:

A man, 57 years of age with established hypercholesterolemia (initial cholesterol values in the blood of 8.1) took 1 g of crushed leaves from *Gynura divaricata DC* as a dry powder once daily. The cholesterol value was reduced to 6.6 after 30 days.

Example 4:

A man, 50 years of age with established hypercholesterolemia (initial cholesterol value in the blood of 8.0) took 1 g of ground leaves from *Gynura divaricata DC* as a powder once daily. The cholesterol value was reduced to 6.9 after 32 days.

Example 5:

A woman, 55 years of age with established hypercholesterolemia (initial cholesterol value in the blood of 8.5) took a lyophilized preparation of 1 g from an aqueous leeching from 1 g of crushed leaves from *Gynura divaricata DC* produced as described in Example 2, wherein the leeching after cooling was lyophilized for forming a powder. This powder was taken once daily. The cholesterol value was reduced to 7.1 after 60 days.

Conclusion:

The results from the examples supra show that the assimilation of a powder, an extract or a leeching made from dried leaves from the plant *Gynura divaricata DC* together with a conventional cholesterol-reducing medication, brings the values for cholesterol in the blood down after using such a combination over time. The reduction of the cholesterol values is lasting as long as such a medication is maintained. Furthermore,
the results show that the cholesterol-reducing effect from the intake of different forms of the preparation from the plant *Gynura divaricata DC* initiates a very rapid cholesterol-reducing effect (between 1-2 months as compared to 2-3 months with conventional preparations). The cholesterol-reducing effect of the plant material alone, as shown in examples 2-5, does not reduce the cholesterol value to below the normal value of 5, but these results combined with the results from example 1, show that the effect of a combinatory preparation according to the invention both reduces the cholesterol values synergistically down to the normal value, that the cholesterol-reducing effect takes effect more rapidly than the known conventional medications and that the pill burden is significantly reduced in comparison to the state of the art.
Claims

1. Combinatory preparation for treating hyperlipidemia and/or hypercholesterolemia, comprising pyrrozilidine alcaloids and preferably whole, parts of and or a leeching or extract from a plant of the family *Asteraceae* in combination with one or more other lipid- and/or cholesterol-reducing substances.

2. Combinatory preparation according to claim 1, wherein the plant of the family *Asteraceae* is *Gynura divaricata* DC, preferably of the type Pae-Tum-Poung and/or Jin-Chee-Muo-Yea.

3. Combinatory preparation according to claim 1 or 2, wherein the parts of the plant are the leaves.

4. Combinatory preparation according to claim 3, wherein the leaves are tried.

5. Combinatory preparation according to any of the preceding claims, wherein the preparation comprises one or more excipients, diluents, and/or carriers as well as colorants, taste additives, consistency-regulating substances and other non-active substances.

6. Combinatory preparation according to any of the preceding claims, wherein the preparation is present as an oral preparation, preferably as a pill or capsule.

7. Combinatory preparation according the preceding claims, wherein the amount of plant parts and/or extract is 100 mg or more, e.g. 200 mg or more, 500 mg or more, 800 mg or more, 1000 mg or more or 2000 mg or more.

8. The use of whole, parts or and/or a leeching or extract of a plant from the family *Asteraceae* in addition to one or more other lipid- and/or cholesterol-reducing substances for producing a medication for treating hyperlipidemia and/or hypercholesterolemia.

9. The use according to claim 8, wherein the plant of the family *Asteraceae* is *Gynura divaricata* DC preferably of the type Pae-Tum-Poung and/or Jin-Chee-Muo-Yea.

10. The use according to claim 8 or 9, wherein the parts of the plant are the leaves.
11. The use according to claim 10, wherein the leaves have been dried.

12. The use according to claims 8 - 11, wherein the preparation comprises one or more excipients, diluents and/or carriers and colorants, taste additives, consistency-regulating substances and other non-active substances.

13. The use according to any of the claims 8 - 12, wherein the preparation is present as an oral medication, preferably as a pill or a capsule.

14. The use according to any of the claims 8 - 13, wherein the amount or the plant parts and/or extract is 100 mg or more, e.g. 200 mg or more, 500 mg or more, 800 mg or more, 1000 mg or more or 2000 mg or more.
INTERNATIONAL SEARCH REPORT

International application No
PCT/NO2011/000222

A. CLASSIFICATION OF SUBJECT MATTER

According to International Patent Classification (IPC) or to both national classification and IPC

INV. A61K31/00 A61K31/40 A61K36/28 A61P3/06

ADD.

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, CHEM ABS Data, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search
18 October 2011

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<td>MANGATHAYARU KALACHAVEEDU ET AL: &quot;Modulatory effect of Inula racemosa Hook, f. (Asteraceae) on experimental atherosclerosis in guinea pigs&quot;, JOURNAL OF PHARMACY AND PHARMACOLOGY, ROYAL PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, GB, vol. 61, no. 8, 1 August 2009 (2009-08-01), pages 1111-1118, XP009152660, ISSN: 0022-3573, DOI: 10.1211/JPP/61.08.0016 [retrieved on 2010-01-08] the whole document abstract page 1116, left-hand column, last paragraph - page 1117, left-hand column, paragraph 2</td>
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<td>ABID ZAKIA BEN ET AL: &quot;Artemisia herba-alba Asso (Asteraceae) has equivalent effects to green and black tea decoctions on anti oxidant processes and some metabolic parameters in rats&quot;, ANNALS OF NUTRITION AND METABOLISM: EUROPEAN JOURNAL OF NUTRITION, METABOLIC DISEASES AND DIETETICS, S. KARGER AG, SWITZERLAND, vol. 51, no. 3, 1 January 2007 (2007-01-01), pages 216-222, XP009152659, ISSN: 0250-6807 the whole document abstract page 220, left-hand column, last paragraph - page 221, right-hand column, last paragraph</td>
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