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The present invention relates to a new nutritional composition having anti-inflammatory properties. More particularly, this composition is useful for the prevention or treatment of inflammation and notably of pain caused by inflammation. Finally, the composition according to the invention is useful in particular for preventing and treating inflammation of the joints, osteoarthritis, and other degenerative diseases of the joints.

Inflammation is characterized as a type of non-specific immune response implemented by the body in reaction to an infection, irritation or a wound. The typical symptoms of inflammation are redness, a sensation of heat, swelling and pain. Generally, inflammation is strongly regulated by the body. However, when the physiological means for controlling inflammation are ineffective or exceeded, inflammation develops and may become the cause of certain diseases such as osteoarthritis, atherosclerosis, inflammatory diseases of the intestine or rheumatoid arthritis.

Millions of people suffer from pain induced by inflammation of connective tissues, notably inflammation of the joints. The term arthritis refers to conditions in which inflammation of the joints may be observed. The typical symptoms of inflammation of the joints are: pain at the level of the inflamed tendons, on exertion (only at the start of exertion, and then disappearing with warming in the case of mild inflammation), shooting pains even at rest or chronic pain in more severe cases, possibly with: inflammation (redness, sensation of heat) and swelling of the joint (bursitis) and finally reduced mobility.

Inflammation of the joints is also present in osteoarthritis, which is common in the elderly.

At present, inflammatory diseases are generally treated with steroidal or non-steroidal anti-inflammatory drugs. The steroidal compounds are based on the use of hormonal substances such as cortisone. The non-steroidal compounds are the most commonly used, for example paracetamol, aspirin, ibuprofen, or naproxen. These drugs generally cause undesirable side-effects, such as heartburn, gastrointestinal bleeding, ulcers, kidney failure, arterial hypertension, or hearing problems. Moreover, the steroidal drugs have shown other undesirable side-effects such as metabolic disorders (osteoporosis, hypokalaemia, metabolic alkalosis, retarded growth in children, delayed wound-healing) or mental disorders (excitation, confusion, depression).

In addition to these palliative treatments or major surgery (fitting of prostheses, etc.), compositions such as drugs, food supplements or functional foods, developed for preventing and/or treating inflammation, have recently appeared. In fact, plant-based compositions are in general well tolerated by the body and do not cause severe side-effects. Plant-based compositions also have the advantage of exerting their beneficial effect via an additive or synergistic action of various chemicals acting on multiple target sites associated with a physiological response.

The applicant has therefore looked into the development of a plant-based composition that has

fewer side-effects when it is administered daily relative to the existing treatments for preventing and/or treating inflammation. During his research, the applicant identified that the specific combination of Harpagophytum and vitamin D offered an advantage for treating inflammation as these two compounds act in synergy. The term "synergy" as used in the present invention refers to a phenomenon in which a combination of two or more agents acting together induces a greater response than the sum of the responses of each agent taken individually.

Compositions comprising Harpagophytum have already been described and Harpagophytum is known for its use in the treatment of pain. For example, patent application FR2829692 describes Formulation No. 3 comprising among other things Harpagophytum with a mixture of vitamins (vitamins B1, B3, B6, B9 and C) for controlling chronic painful conditions.

The present invention therefore relates to a composition comprising Harpagophytum or harpagoside and vitamin D.

Harpagophytum is a plant of the family Pedaliaceae, the main species being Harpagophytum procumbens commonly called "devil's claw" or "Windhoek root". Another known species of Harpagophytum is Harpagophytum zeyheri. Harpagophytum is a herbaceous perennial originating from the semi-desert regions of southern African.

Harpagophytum is a medicinal plant whose root is included in the European Pharmacopoeia for treating minor joint pain. The two active ingredients of Harpagophytum are the harpagosides, notably harpagoside, and beta-sitosterol. These molecules possess anti-inflammatory properties. The root of Harpagophytum also contains flavonoids, phenolic acids, quinones, phytosterols, sugars, triterpenes and acetosides.

In one embodiment of the invention, the composition according to the invention comprises Harpagophytum in the form of powder or in the form of extract.

The secondary roots of Harpagophytum may be used pharmaceutically and may be prepared in the form of tea, in the form of powder or may undergo extraction to obtain a dry or liquid extract.

Harpagophytum extracts may be prepared by all techniques familiar to a person skilled in the art, for example extraction by steam distillation (hydrodistillation). Preferably, Harpagophytum extract is obtained by extraction from the plant Harpagophytum, in particular by hydrodistillation or by aqueous-alcoholic extraction, preferably ethanol or methanol/water. The advantage of using water as the extractant is that the product can be incorporated in the end product directly without first having to remove the extractant.

Another method for producing Harpagophytum extracts is described in patent application WO2008/145931, the contents of which are incorporated in the present application. This method of preparation comprises a step of purification of a crude Harpagophytum extract in liquid form in the gas phase, by a technique of liquid-liquid extraction with an organic solvent selected from the

esters, preferably alkyl acetate, so as to obtain an aqueous phase and an organic phase with high harpagoside concentration. The solvent is then removed to obtain the concentrated extract in liquid form and said extract is optionally transformed to obtain an extract in dry form. The methods that are well known by a person skilled in the art for transforming a concentrated extract in liquid form to an extract in dry form are removal of the water by a stream of hot air, by drying, by spraying, by evaporation, by sublimation, by dehydration or by adsorption on a carrier.

Generally, Harpagophytum extracts comprise 0.5 to 20% of harpagosides, measured by HPLC. These extracts offer a satisfactory alternative to the use of plant powder.

The method described in WO2008/145931 makes it possible to obtain Harpagophytum extracts in liquid form or dry form, comprising a concentration of harpagosides greater than or equal to 5%, or even greater than or equal to 35%.

Extracts that may be used in the present invention are for example the extracts marketed by Naturex under the name Devil's Claw, or the extracts marketed by Burgundy under the name Botany Harpagophytum (5% harpagosides) or BotanySelect Harpagophytum (20% harpagosides).

In one embodiment of the invention, the composition according to the invention comprises 100 to 3000 mg of Harpagophytum powder, preferably 200 to 2000 mg, more preferably from 400 to 1500 mg, even more preferably from 600 to 900 mg and finally even more preferably 800 mg of Harpagophytum powder.

In another embodiment of the invention, the composition according to the invention comprises 50 to 3000 mg of Harpagophytum extract containing 0.5 to 5% of harpagosides, preferably 100 to 1000 mg, more preferably from 150 to 700 mg, even more preferably from 200 to 500 mg. In one embodiment, the composition according to the invention comprises 400 mg of Harpagophytum extract containing 0.5 to 5% of harpagosides. In another embodiment, the composition according to the invention comprises 250 mg of Harpagophytum extract containing 0.5 to 5% of harpagosides.

In another embodiment of the invention, the composition according to the invention comprises 50 to 1500 mg of Harpagophytum extract containing 10% of harpagosides, preferably 100 to 1000 mg, more preferably from 125 to 400 mg, even more preferably 150 to 300 mg. In one embodiment, the composition according to the invention comprises 200 mg of Harpagophytum extract containing 10% of harpagosides. In another embodiment, the composition according to the invention comprises 400 mg of Harpagophytum extract containing 10% of harpagosides.

In another embodiment of the invention, the composition according to the invention comprises 25 to 750 mg of Harpagophytum extract containing 20% of harpagosides, preferably 50 to 500 mg, more preferably from 60 to 200 mg, even more preferably 75 to 150 mg. In one embodiment, the composition according to the invention comprises 100 mg of Harpagophytum extract containing

20% of harpagosides. In another embodiment, the composition according to the invention comprises 200 mg of Harpagophytum extract containing 20% of harpagosides.

In another embodiment of the invention, the composition according to the invention comprises 15 to 500 mg of Harpagophytum extract containing 30% of harpagosides, preferably 30 to 300 mg, more preferably from 40 to 130 mg, even more preferably 50 to 100 mg. In one embodiment, the composition according to the invention comprises 60 mg of Harpagophytum extract containing 30% of harpagosides. In another embodiment, the composition according to the invention comprises 120 mg of Harpagophytum extract containing 30% of harpagosides.

In another embodiment of the invention, the composition according to the invention comprises 12.5 to 375 mg of Harpagophytum extract containing 40% of harpagosides, preferably 25 to 250 mg, more preferably from 30 to 100 mg, even more preferably 35 to 75 mg. In one embodiment, the composition according to the invention comprises 50 mg of Harpagophytum extract containing 40% of harpagosides. In another embodiment, the composition according to the invention comprises 100 mg of Harpagophytum extract containing 40% of harpagosides.

In one embodiment of the invention, the composition according to the invention comprises from 1 to 200 mg of harpagosides, from 1 to 100 mg, preferably 10 to 50 mg, more preferably from 15 to 30 mg of harpagosides. In one embodiment, the composition according to the invention comprises 40 mg of harpagosides. In one embodiment, the composition according to the invention comprises 1.25 mg of harpagosides.

In one embodiment of the invention, the composition according to the invention comprises from 0.1 to 100 mg of harpagoside, from 0.25 to 50 mg, preferably 0.5 to 25 mg, more preferably from 0.6 to 12.5 mg of harpagoside. In one embodiment, the composition according to the invention comprises 20 mg of harpagoside. In one embodiment, the composition according to the invention comprises 0.625 mg of harpagoside.

Vitamin D is a fat-soluble vitamin synthesized by the human body starting from a derivative of cholesterol under the action of UVB rays from light. It exists in two forms: vitamin D2 (ergocalciferol) and vitamin D3 (cholecalciferol).

In one embodiment of the invention, the composition according to the invention comprises vitamin D2 or vitamin D3 or a mixture of the two.

Preferably, the composition according to the invention comprises vitamin D3.

Vitamin D is available commercially.

In one embodiment of the invention, the composition according to the invention comprises 0.5 μg to 50 μg of vitamin D, preferably 1 μg to 25 μg, more preferably from 5 μg to 15 μg and even more preferably 5 μg to 10 μg of vitamin D.

In one embodiment of the invention, the composition comprises Harpagophytum or harpagosides

and vitamin D, and the amount of Harpagophytum is from 50 to 3000 mg, the amount of harpagosides is from 1 to 100 mg and the amount of vitamin D is from 0.5 to 50 µg.

In one embodiment of the invention, the composition comprises Harpagophytum powder, or a Harpagophytum extract at 20% of harpagosides or harpagosides and vitamin D, and the amount of Harpagophytum powder is 2400 mg, the amount of Harpagophytum extract is 200 mg, the amount of harpagosides is 40 mg and the amount of vitamin D is 5 µg.

In one embodiment of the invention, the composition comprises Harpagophytum powder, or a Harpagophytum extract at 0.5% of harpagosides or harpagosides and vitamin D, and the amount of Harpagophytum powder is 1000 mg, the amount of Harpagophytum extract is 250 mg, the amount of harpagosides is 1.25 mg and the amount of vitamin D is 5 µg.

In one embodiment of the invention, the composition according to the invention comprises a ratio of Harpagophytum (extract or powder) to vitamin D from 6 000 000:1 to 1000:1, preferably from 1 000 000:1 to 10 000:1, more preferably from 500 000:1 to 25 000:1, and even more preferably from 100 000:1 to 40 000:1.

In one embodiment of the invention, the composition according to the invention comprises a ratio of harpagosides to vitamin D from 200 000:1 to 20:1, preferably from 50000:1 to 200:1, preferably from 50000:1 to 400:1, preferably from 10 000:1 to 500:1, more preferably from 6000:1 to 1000:1, and even more preferably from 4000:1 to 2000:1.

In one embodiment of the invention, these ratios are by moles of product. In another embodiment, these ratios are by weight of product.

In one embodiment of the invention, the composition according to the invention also comprises calcium.

According to the invention, calcium may be selected from the following compounds:

calcium carbonate, calcium chloride, calcium citrate malate, calcium salts of citric acid, calcium gluconate, calcium glycerophosphate, calcium lactate, calcium salts of orthophosphoric acid, calcium hydroxide, calcium malate, calcium oxide, calcium sulphate, calcium acetate, calcium L-ascorbate, calcium bisglycinate, calcium pyruvate, calcium succinate, calcium L-lysinate, calcium L-pidolate, and calcium L-threonate.

Preferably, the composition according to the invention comprises calcium carbonate.

Calcium is available commercially from numerous suppliers.

In one embodiment of the invention, the composition according to the invention comprises 100 mg to 2000 mg of calcium, preferably 200 mg to 1000 mg, more preferably from 300 mg to 500 mg and even more preferably 400 mg of calcium.

Preferably, the composition according to the invention comprises 800 mg of Harpagophytum powder and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 400 mg of Harpagophytum extract containing 0.5 to 5% of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 200 mg of Harpagophytum extract containing 10% of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 100 mg of Harpagophytum extract containing 20% of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 60 mg of Harpagophytum extract containing 30% of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 50 mg of Harpagophytum extract containing 40% of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

Preferably, the composition according to the invention comprises 20 mg of harpagosides and 5 µg of vitamin D, and optionally 400 mg of calcium.

In one embodiment of the invention, the composition according to the invention may be a food product, a drink, a food supplement, a nutraceutical or a functional food, a cosmetic product, an animal feed product or a medicinal product.

In one embodiment of the invention, the composition according to the invention optionally comprises one or more pharmaceutically or nutraceutically acceptable excipients or salts or additives.

In one embodiment of the invention, the composition according to the invention is in the form of granules, tablets, soft capsules, hard capsules, solution, suspension, syrup, powder, paste, gel, or cream.

In one embodiment of the invention, the composition according to the invention is formulated in a solid, semi-solid or liquid dosage form by adding biologically or pharmaceutically or nutraceutically acceptable vehicles.

The products according to the invention are preferably administered by the enteral route or by the topical route. Parenteral administration may also be envisaged. Enteral route means the oral route, the sublingual route, the rectal route, the pulmonary route, the percutaneous route and local routes.

In one embodiment of the invention, specific dosage forms for formulation of the composition according to the invention include, but are not limited to, oral formulations such as granules, tablets, soft or hard capsules, powders, solutions for infusion, creams, gels, emulsions (oil-in-water, water-in-oil, anhydrous, solid emulsion or microemulsions), unguents, enemas, suspensions, syrups, ampoules, inhalers, mouth sprays, injections, drops, suppositories, patches, etc.

In one embodiment of the invention, the galenical form comprising the composition of the

invention is single, i.e. a single capsule or a single liquid formulation.

Examples of biologically or pharmaceutically or nutraceutically acceptable vehicles include, but are not limited to, surfactants, excipients, binders, diluents, lubricants, preservatives, stabilizers, antioxidants, buffers, suspensions and systems of administration.

Examples of solid vehicles, diluents or excipients include, but are not limited to, glucose, fructose, sucrose, maltose, yellow dextrin, white dextrin, microcrystalline cellulose, calcium stearate, magnesium stearate, sorbitol, glucose syrup, lactose, citric acid, tartaric acid, malic acid, succinic acid, lactic acid, L-ascorbic acid, alpha-tocopherol, glycerin, propylene glycol, sucroester, polyglycerol esters of fatty acids, sucroglycerides, carrageenans, gum arabic, casein, gelatin, pectin, agar, nicotinamide, amino acids, calcium salts, pigments, etc.

Examples of liquid vehicles include distilled water, saline solution, aqueous glucose solution, alcohol for example ethanol, propylene glycol, and polyethylene glycol; and oily vehicles such as vegetable and animal oils, paraffin, or wax.

Examples of antioxidants include but are not limited to tocopherol, butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA), natural antioxidants such as rosemary extract, propyl gallate, etc.

Examples of preservatives include but are not limited to methylparaben, propylparaben, potassium sorbate, sodium benzoate, benzoic acid, etc.

Examples of surfactants include but are not limited to anionic, cationic, or non-ionic surfactants such as ascorbyl palmitate, polysorbates, polyethylene glycols, etc.

Examples of pH stabilizers or buffers include but are not limited to citric acid-sodium citrate, phosphoric acid-sodium phosphate, acetic acid-sodium acetate, etc.

In another embodiment of the invention, the compositions according to the invention are administered in the form of controlled-release tablets, using polymer-based coatings allowing controlled release owing to techniques familiar to a person skilled in the art such as micro-encapsulation or colloidal vehicle systems.

Examples of encapsulating agents include, but are not limited to, starch, animal-source proteins such as gelatin, plant-source proteins, casein, pectin, alginate, agar, maltodextrins, lignin sulphonates, cellulose derivatives (ethylcellulose, methylcellulose, hydroxypropylcellulose, hydroxypropylmethylcellulose, carboxymethylcellulose), sugars, sorbitols, gums, etc.

The compositions according to the invention are preferably intended for humans but may also be administered to animals, notably to domestic animals.

In one embodiment of the invention, the composition according to the invention may be included in food products or drinks such as tea, confectionery, products for culinary use, food supplements, milk products, drinks, milk-based drinks, soups, meal replacements, nutritional bars, milk-based

powders, cereal products, biscuits, chewing gums, chocolate, etc.

In another embodiment of the invention, the composition according to the invention may be included in cosmetic products such as soap, shampoo, toothpaste, mouthwash, lipstick, creams, etc.

In one embodiment of the invention, the composition according to the invention provides prevention and/or treatment of inflammation.

According to the invention, the term "prevention" refers to the action of the composition according to the invention for preventing or delaying or limiting the development of inflammation. The term "treatment" according to the invention refers to the action of the composition according to the invention for decreasing, suppressing or inhibiting the symptoms associated with inflammation, slowing the progression of inflammation, or improving the condition of subjects to whom the composition is administered.

In one embodiment of the invention, the composition according to the invention provides prevention and/or treatment of inflammatory diseases.

The invention also relates to a method of treating inflammation or inflammatory diseases, comprising administration of a sufficient therapeutic amount of the composition of the invention to a subject.

Examples of these diseases include but are not limited to asthma, arthritis, atherosclerosis, endothelial dysfunctions, osteoarthritis, rheumatoid arthritis, allergic rhinitis, dermatitis, psoriasis, cystic fibrosis, inflammatory diseases of the intestine, multiple sclerosis, diabetes, neurological disorders, lupus, restenoses, glomerulonephritis, gastrointestinal allergies, nephritis, conjunctivitis, eczema, bronchitis, hay fever, joint pains, Sjögren syndrome, scleroderma, dermatomyositis, polymyositis, polypyalgia rheumatica, gout, spondylopathies, vasculitis, etc.

In a preferred embodiment of the invention, the composition according to the invention provides prevention and/or treatment of inflammation-induced pain.

In another preferred embodiment of the invention, the composition according to the invention provides prevention and/or treatment of degenerative diseases of the joints, notably arthrosis.

In one embodiment of the invention, the composition according to the invention is administered to the subject daily.

In one embodiment of the invention, the composition according to the invention is administered to the subject once daily.

In one embodiment of the invention, the composition according to the invention is administered to the subject twice daily.

In one embodiment of the invention, the composition according to the invention is administered to the subject three times daily.

Examples

Example 1

A person suffering from rheumatism of the knees took a capsule containing Harpagophytum powder (powdered root containing 3% of harpagosides) daily for several months.

She found that the sensation of joint stiffness affecting the knees was slightly attenuated.

This person then took capsules containing Harpagophytum powder and tablets of vitamin D in the form of cholecalciferol (25 mcg) simultaneously for several weeks.

She found a considerable improvement in the sensation of stiffness and pain affecting the knees.

This clear improvement continued over the course of the weeks of treatment.

Example 2

Three people suffering from rheumatism took capsules containing Harpagophytum powder and tablets of vitamin D in the form of cholecalciferol simultaneously for several weeks: these three people also observed a clear improvement of the pain and sensation of stiffness affecting their joints.

Example 3

A person suffering from rheumatism of the hips took capsules containing Harpagophytum powder and tablets of vitamin D in the form of cholecalciferol (800 IU = 20 mcg) simultaneously for several weeks: she noted a clear improvement of the pain affecting the hips and a decrease in joint stiffness.

She then added calcium to this treatment (1000 mg per day in the form of calcium carbonate) for several weeks and observed an even better improvement of the pain.

Example 4

Material and Methods

Cell culture

The RAW 264.7 cells are seeded in a 48-well plate and incubated overnight at 37°C, 5% CO_2. On the next day, the cells are pretreated for 1 hour with the test products and their various combinations, and then inflammation is induced with LPS at 1Fg/ml. After incubation for 24 hours, the cellular supernatants are recovered and then frozen at -20°C.

ELISA assay of IL1-β

Assay of the cytokine IL1-β is performed on culture supernatants by the ELISA technique using a commercial kit (*Mouse IL1 β ELISA Set, 559603, BD Biosciences*) according to the supplier's instructions.

Data analysis

Analysis of the assays of cytokines: The positive control of inflammation is represented by the cells incubated only with LPS. The negative control of inflammation in the experiment is not

stimulated with LPS. Finally, dexamethasone is used as positive control of inhibition of inflammation.

The secretion of the cytokines is presented as percentage inhibition of the inflammation relative to the cells stimulated with LPS for 24 hours.

Products tested

A Harpagophytum extract assayed at 10% of harpagosides is used at a concentration of harpagosides of 0.2 µM, 2 µM and 8 µM.

Calcitriol (1α,25 (OH)2 D3) is used at a concentration of 1 nM or 10 nM.

Results

The percentage inhibition of the secretion of IL-1β by the harpagosides, calcitriol or their combination is presented in the following table.

		Calcitriol		
		-	**1 nM**	**10 nM**
harpagosides	-		32 ± 7	25 ± 9
	0.2 µM	0.1 ± 0.01	49 ± 8	
	2 µM	0.3 ± 0.01		49 ± 6
	8 µM	0.52 ± 0.03	47 ± 3	

There is therefore a synergistic effect of the harpagosides and vitamin D on inhibition of the secretion of IL-1β. The cytokine IL-1β is an inflammatory cytokine: inhibition of the secretion of IL-1β therefore indicates an anti-inflammatory effect.

Harpagophytum and vitamin D have synergistic anti-inflammatory action.

PATENTKRAV

1. Sammensætning, der omfatter Harpagophytum eller harpagosider og vitamin D, hvori mængden af Harpagophytum er fra 50 til 3000 mg, mængden af harpagosider er fra 1 til 100 mg og mængden af vitamin D er fra 0,5 til 50 µg.

2. Sammensætning ifølge krav 1, hvori Harpagophytum er i form af pulver eller i form af ekstrakt.

3. Sammensætning ifølge krav 1 eller 2, der omfatter fra 100 til 3000 mg Harpagophytumpulver.

4. Sammensætning ifølge krav 1 eller 2, der omfatter fra 50 til 500 mg Harpagophytumekstrakt, der indeholder 10 til 40 % harpagosider.

5. Sammensætning ifølge krav 1 eller 2, der omfatter fra 50 til 3000 mg Harpagophytumekstrakt, der indeholder 0,5 til 5 % harpagosider.

6. Sammensætning ifølge et hvilket som helst af kravene 1 til 5, der omfatter Harpagophytumpulver i en mængde af 2400 mg, eller et Harpagophytumekstrakt med 20 % harpagosider i en mængde af 200 mg eller harpagosider i en mængde af 40 mg og vitamin D i en mængde af 5 µg.

7. Sammensætning ifølge et hvilket som helst af kravene 1 til 5, der omfatter Harpagophytumpulver i en mængde af 1000 mg, eller et Harpagophytumekstrakt med 0,5 % harpagosider i en mængde af 250 mg eller harpagosider i en mængde af 1,25 mg og vitamin D i en mængde af 5 µg.

8. Sammensætning ifølge et hvilket som helst af kravene 1 til 7, hvori vitamin D er i form af ergocalciferol, cholecalciferol eller en blanding af begge.

9. Sammensætning ifølge et hvilket som helst af kravene 1 til 8, der endvidere omfatter calcium.

10. Sammensætning ifølge et hvilket som helst af kravene 1 til 9, i form af et fødevareprodukt, en drikkevare, et kosttilskud, et nutraceutisk produkt eller en funktionel fødevare, et kosmetisk produkt, et dyrefoderprodukt eller et lægemiddel.

11. Sammensætning ifølge et hvilket som helst af kravene 1 til 10 i form af granuler, tabletter, kapsler, gelkapsler, opløsning, suspension, sirup, pulver, pasta, gel eller creme.

12. Sammensætning ifølge et hvilket som helst af kravene 1 til 11 til anvendelse i forebyggelse og/eller behandling af inflammation eller inflammationssygdomme.

13. Sammensætning til anvendelse ifølge krav 12 til forebyggelse og/eller behandling af inflammationsinduceret smerte.

14. Sammensætning til anvendelse ifølge krav 12 til forebyggelse og/eller behandling degenerative ledsygdomme, navnlig artrose.

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