

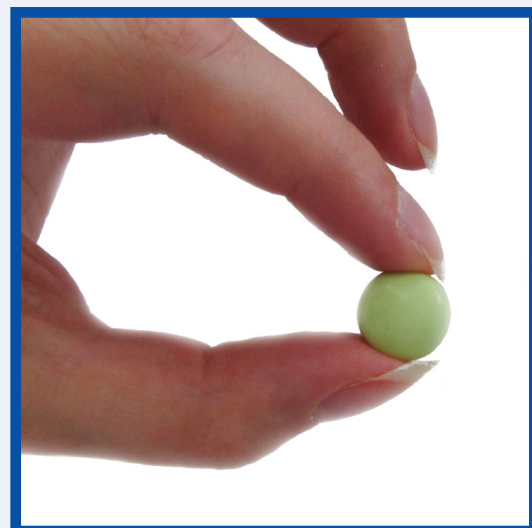
# E/S/C/O/P MONOGRAPHS

ONLINE  
SERIES

*The Scientific Foundation for Herbal Medicinal Products*

## **Violae herba cum flore** **Wild Pansy (Flowering Aerial Parts)**

**2015**



**E/S/C/O/P**  
EUROPEAN SCIENTIFIC COOPERATIVE  
ON PHYTOTHERAPY

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*The Scientific Foundation for*  
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**VIOLAE HERBA CUM FLORE**  
**Wild Pansy (Flowering Aerial Parts)**

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### **Violae herba cum flore - Wild Pansy (Flowering Aerial Parts)**

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Edited by Simon Mills and Roberta Hutchins  
Cover photographs by Salvador Cañigueral (*Viola tricolor*) and Martin Willoughby  
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Plant illustrated on the cover: *Viola tricolor*

## FOREWORD

It is a great pleasure for me to introduce the online era of ESCOP Monographs. Interest in herbal medicinal products continues to stimulate research on herbal substances and the body of knowledge in this field is steadily growing. ESCOP takes account of this by preparing new monographs and - as the only organisation in the field at the moment - particularly through regular revision of our published monographs. In order to provide readers and authorities with balanced compilations of scientific data as rapidly as possible, ESCOP Monographs will be published online from now on. This contemporary way of publishing adds further momentum to ESCOP's endeavours in the harmonization of European standards for herbal medicinal products.

The Board of ESCOP wishes to express its sincere gratitude to the members of the Scientific Committee, external experts and supervising editors, and to Peter Bradley, the final editor of every monograph published up to March 2011. All have voluntarily contributed their time and scientific expertise to ensure the high standard of the monographs.

**Liselotte Krenn**

*Chair of the Board of ESCOP*

## PREFACE

Over the 15 years since ESCOP published its first monographs, initially as loose-leaf documents then as two hardback books, ESCOP Monographs have achieved a reputation for well-researched, comprehensive yet concise summaries of available scientific data pertaining to the efficacy and safety of herbal medicinal products. The Second Edition, published in 2003 with a Supplement in 2009, covered a total of 107 herbal substances.

The monograph texts are prepared in the demanding format of the Summary of Product Characteristics (SPC), a standard document required in every application to market a medicinal product for human use within the European Union and ultimately providing information for prescribers and users of individual products.

As a change in style, literature references are now denoted by the name of the first author and year of publication instead of reference numbers; consequently, citations at the end of a monograph are now in alphabetical order. This is intended to give the reader a little more information and perspective when reading the text.

Detailed work in studying the pertinent scientific literature and compiling draft monographs relies to a large extent on the knowledge, skills and dedication of individual project leaders within ESCOP Scientific Committee, as well as invited experts. After discussion and provisional acceptance by the Committee, draft monographs are appraised by an eminent Board of Supervising Editors and all comments are taken into account before final editing and approval. In this way a wide degree of consensus is achieved, but it is a time-consuming process.

To accelerate the publication of new and revised monographs ESCOP has therefore decided to publish them as an online series only, commencing in 2011. We trust that rapid online access will prove helpful and convenient to all users of ESCOP Monographs.

As always, ESCOP is indebted to the many contributors involved in the preparation of monographs, as well as to those who provide administrative assistance and hospitality to keep the enterprise running smoothly; our grateful thanks to them all.

## NOTES FOR THE READER

From 2011 new and revised *ESCOP Monographs* are published as an online series only. Earlier monographs are available in two books, *ESCOP Monographs Second Edition (2003)* and the *Second Edition Supplement 2009*, but are not available online for copyright reasons.

After purchase of a single monograph, the specific items to be downloaded are:

- Front cover
- Title page
- Verso
- Foreword and Preface
- Notes for the Reader
- Abbreviations
- The monograph text
- Back cover

Information on the member organizations and people involved in ESCOP's activities can be found on the website ([www.escop.com](http://www.escop.com)):

- Members of ESCOP
- Board of Supervising Editors
- ESCOP Scientific Committee
- Board of Directors of ESCOP

## ABBREVIATIONS used in ESCOP monographs

AA	arachidonic acid
ABTS	2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid)
ACE	angiotensin converting enzyme
ADP	adenosine diphosphate
ALAT or ALT	alanine aminotransferase (= SGPT or GPT)
ALP	alkaline phosphatase
anti-IgE	anti-immunoglobulin E
ASA	acetylsalicylic acid
ASAT or AST	aspartate aminotransferase (= SGOT or GOT)
ATP	adenosine triphosphate
AUC	area under the concentration-time curve
BMI	body mass index
BPH	benign prostatic hyperplasia
b.w.	body weight
cAMP	cyclic adenosine monophosphate
CI	confidence interval
C <sub>max</sub>	maximum concentration of a substance in serum
CNS	central nervous system
CoA	coenzyme A
COX	cyclooxygenase
CSF	colony stimulating factor
CVI	chronic venous insufficiency
CYP	cytochrome P450
d	day
DER	drug-to-extract ratio
DHT	dihydrotestosterone
DNA	deoxyribonucleic acid
DPPH	diphenylpicrylhydrazyl
DSM	Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association)
ECG	electrocardiogram
ED <sub>50</sub>	effective dose in 50% of cases
EDTA	ethylenediamine tetraacetate
EEG	electroencephalogram
EMA	European Medicines Agency
ENT	ear, nose and throat
ER	oestrogen receptor
ERE	oestrogen-responsive element
FSH	follicle-stimulating hormone
GABA	gamma-aminobutyric acid
Gal	galactose
GFR	glomerular filtration rate
GGTP	gamma-glutamyl transpeptidase
GOT	glutamate oxalacetate transaminase (= SGOT)
GPT	glutamate pyruvate transaminase (= SGPT)
GSH	glutathione (reduced)
GSSG	glutathione (oxidised)
HAMA	Hamilton Anxiety Scale
12-HETE	12-hydroxy-5,8,10,14-eicosatetraenoic acid
HDL	high density lipoprotein
HIV	human immunodeficiency virus
HMPC	Committee on Herbal Medicinal Products (of the EMA)
HPLC	high-performance liquid chromatography
5-HT	5-hydroxytryptamine (= serotonin)
IC <sub>50</sub>	concentration leading to 50% inhibition
ICD-10	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision
ICH	The International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use
ICSD	International Classification of Sleep Disorders
IFN	interferon
IL	interleukin
i.m.	intramuscular
iNOS	inducible nitric oxide synthase
INR	International Normalized Ratio, a measure of blood coagulation (clotting) tendency



i.p.	intraperitoneal
IPSS	International Prostate Symptom Score
i.v.	intravenous
kD	kiloDalton
KM Index	Kuppermann Menopausal Index
kPa	kiloPascal
LC-MS	liquid chromatography-mass spectrometry
LD <sub>50</sub>	the dose lethal to 50% of animals tested
LDH	lactate dehydrogenase
LDL	low density lipoprotein
LH	luteinizing hormone
5-LOX	5-lipoxygenase
LPS	lipopolysaccharide
LTB <sub>4</sub>	leukotriene B <sub>4</sub>
M	molar (concentration)
MAO	monoamine oxidase
MBC	minimum bactericidal concentration
MDA	malondialdehyde
MFC	minimum fungicidal concentration
MIC	minimum inhibitory concentration
Mr	molecular
MRS	Menopause Rating Scale
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
MTD	maximum tolerated dose
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide
MW	molecular weight
NBT	nitro blue tetrazolium
NF-kB	necrosis factor kappa-B
NO	nitric oxide
NOS	nitric oxide synthase
n.s.	not significant
NSAID	non-steroidal anti-inflammatory drug
ovx	ovariectomy or ovariectomized
ORAC	oxygen radical absorbance capacity
PA	pyrrolizidine alkaloid
PAF	platelet activating factor
PCR	polymerase chain reaction
PEG	polyethylene glycol
PGE	prostaglandin E
PHA	phythaemagglutinin
p.o.	per os
POMS	profile of mood states
PVPP	polyvinylpyrrolidone
RANKL	receptor activator of nuclear factor kappa-B ligand
RNA	ribonucleic acid
RT-PCR	reverse transcription polymerase chain reaction
s.c.	subcutaneous
SCI	spinal cord injury
SERM	selective oestrogen receptor modulator
SGOT or GOT	serum glutamate oxalacetate transaminase (= ASAT or AST)
SGPT or GPT	serum glutamate pyruvate transaminase (= ALAT or ALT)
SHBG	sex hormone binding globulin
SOD	superoxide dismutase
SSRI	selective serotonin reuptake inhibitor
STAI	state-trait anxiety inventory
t <sub>1/2</sub>	elimination half-life
TBARS	thiobarbituric acid reactive substances
TGF-β	transforming growth factor-beta
TNF	tumour necrosis factor
TPA	12-O-tetradecanoylphorbol-13-acetate
URT	upper respiratory tract
URTI	upper respiratory tract infection
UTI	urinary tract infection
VAS	visual analogue scale
VLDL	very low density lipoprotein

## Wild Pansy (Flowering Aerial Parts)

### DEFINITION

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Wild pansy consists of the dried flowering aerial parts of *Viola arvensis* Murray and/or *Viola tricolor* L. It contains not less than 1.5 per cent of flavonoids, expressed as violanthin (C<sub>27</sub>H<sub>30</sub>O<sub>14</sub>; M<sub>r</sub> 578.5) (dried drug).

The material complies with the monograph of the European Pharmacopoeia [Wild Pansy].

Fresh material may also be used provided that when dried it complies with the monograph of the European Pharmacopoeia.

### CONSTITUENTS

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The characteristic constituents include

- Flavonoids (up to 2.9%), mainly rutin (up to 1%) and other flavonol-O-glycosides together with flavone-C-glycosides, principally apigenin di-C-glycosides including violanthin (up to 0.8%), violarvensin (up to 0.7%) and vicenin-2, and the luteolin mono-C-glycosides isoorientin and orientin [Fraisie 2001, Carnat 1998, Wagner 1972, Glasl 1984, Hänsel 1994, Bradley 2006, Vukics 2008a]. The flowers also contain anthocyanins such as violanin [delphinidin 3-(6-*p*-coumaroyl-rhamnosylglucoside)-5-glucoside] [Saito 1983].
- Phenolic acids (up to 0.5%), mainly salicylic acid and its derivatives methyl salicylate and violutin (methyl salicylate arabinosylglucoside) [Fraisie 2001, Komorowski 1983, Hänsel 1994].
- Carotenoids of the xanthophyll type (up to 0.1%) in the yellow flowers, principally 9-*cis*-violaxanthin (ca. 50%) and all-*trans*-violaxanthin (ca. 30%) together with other *cis*- and di-*cis*-violaxanthins. They are mainly present as di-esters, esterified with saturated C<sub>12</sub>-C<sub>18</sub> fatty acids and/or *b*-hydroxy C<sub>12</sub>-C<sub>18</sub> fatty acids [Molnar 1980 & 1986, Hansmann 1982].
- Polysaccharides, from ca. 10% [Franz 1969, Zabaznaya 1985] to ca. 25% [Fraisie 2001], consisting mainly of glucose, galactose and arabinose together with xylose and galacturonic acid.
- Cyclotides (about 0.02%): these are macrocyclic peptides containing about 30 amino acids linked in a head-to-tail cyclic backbone constrained by 3 disulfide bonds. The proteins violapeptide I [Schöpke 1993, Göransson 2004] and varvs A-H [Claeson 1998, Göransson 1999] have been isolated from *V. arvensis* while vitri A, varv A and varv E have been isolated from *V. tricolor* [Svangard 2004].

Other constituents include tannins, ascorbic acid, tocopherol and minerals (mainly potassium salts) [Rimkiene 2003, Fraisie 2001, Hänsel 1994, Wichtl 2001].

Saponins were not detected in *V. tricolor* [Schöpke 1993] nor in *V. arvensis* [Schöpke 1993, Fraisie 2001], contrary to an earlier report of about 5% saponins in *V. tricolor* [Tamas 1981].

### CLINICAL PARTICULARS

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#### Therapeutic indications

Skin disorders such as eczema, seborrhoea, impetigo and acne, as well as cradlecap and nappy-rash of infants [Bradley 2006, Rimkiene 2003, Hänsel 1994, Wichtl 2001, Van Hellefont 1988, Schilcher 2006].

In these indications, the efficacy is plausible on the basis of human experience and long-standing use.



**Posology and method of administration**

**Dosage**

**Internal use**

*Adults:* 1.5-4 g of the drug as an infusion three times daily [Bradley 2006, Hänsel 1994, Wichtl 2001]; fluid extract (1:1, ethanol 25%), 2-4 ml three times daily [Bradley 2006]; dry extract (6:1), 2-4 g daily [Van Hellefont 1988].

*Children:* proportion of adult daily dose according to age or body weight.

**External use**

3-4 g of the drug in 150 ml of hot water as a compress or poultice, several times daily [Bradley 2006, Hänsel 1994].

**Method of administration**

For oral administration and local application.

**Duration of administration**

No restriction.

**Contra-indications**

None known.

**Special warnings and special precautions for use**

None required.

**Interaction with other medicaments and other forms of interaction**

None reported.

**Pregnancy and lactation**

No data available. In accordance with general medical practice, the product should not be used during pregnancy or lactation without medical advice.

**Effects on ability to drive and use machines**

None known.

**Undesirable effects**

None reported.

**Overdose**

No toxic effects reported.

**PHARMACOLOGICAL PROPERTIES**

**Pharmacodynamic properties**

**In vitro experiments**

*Antimicrobial activity*

An infusion, a decoction and an ethanolic extract from *V. tricolor* herb exhibited antimicrobial activity against various Gram-positive and Gram-negative bacteria and the fungus *Candida albicans* with MIC and MBC ranging from 0.15 to 5 mg/ml [Witkowska-Banaszczak 2005].

*Cytotoxic activity*

A 70% ethanolic extract of *V. tricolor* herb and its ethyl acetate, butanol and water fractions were examined for cytotoxic potential on MCF-7 human breast cancer cells, Neuro2a mouse neuroblastoma and normal murine fibroblast cells. The ethyl acetate fraction significantly inhibited cell proliferation in MCF-7 (about 50% ; p<0.001 at 200 µg/mL) and in Neuro2a cells (about 25% ; p<0.01 at 200 µg/mL). In contrast it was

less toxic in normal cells at concentrations up to 400 µg/mL. Further investigation showed induction of apoptosis by increased sub-G1 peak, Bax/Bcl-2 ratio and cleaved caspase-3 level [Sadeghnia 2014].

An aqueous fraction of a dichloromethane : methanol (1:1) extract of *V. tricolor* inhibited proliferation of activated lymphocytes by reducing IL-2 cytokine secretion, as well as reducing production of IFN-g and TNF-a. IL-2 receptor expression and degranulation capacity remained unaffected. Bioassay-guided purification led to 2 active fractions containing cyclotides [Hellinger 2014].

In initial cytotoxicity screening the polypeptide fraction of *V. arvensis* exhibited cytotoxic activity against human embryonic lung tumour cells and T cells. In further screening the fraction exhibited dose-dependent cytotoxic activity against 10 human cancer cell lines with IC<sub>50</sub> values of 15-45 µg/ml [Lindholm 2002].

The isolated cyclotides varv A and varv F were tested against the same 10 cell lines and were also found to have cytotoxic activity, with IC<sub>50</sub> values of 2.7-6.4 µM and 2.6-7.4 µM respectively. When varv A was subsequently tested in lymphocytic leukaemia cells from patients and in healthy lymphocytes it exhibited selective toxicity against the leukaemia cells (IC<sub>50</sub> of 1.34 µM, compared to 12.13 µM in healthy lymphocytes) [Lindholm, Göransson 2002].

Correlation analysis showed that the activity profiles of the polypeptide fraction and the two isolated cyclotides differed significantly from those of antitumour drugs in clinical use, suggesting a new mechanism for cytotoxicity [Lindholm, Gullbo 2002; Lindholm, Göransson 2002].

The cyclotides vitri A, varv A and varv E (isolated from *V. tricolor*) exhibited dose-dependent cytotoxic activity against human lymphoma and myeloma cancer cell lines with IC<sub>50</sub> values of 0.6 and 1 µM respectively for vitri A, 6 and 3 µM respectively for varv A, and 4 µM in both cell lines for varv E, compared to 0.1 µM in both cell lines for doxorubicin [Svangard 2004].

*Other activities*

A 50%-methanolic extract from *V. tricolor* was tested for anti-spasmodic activity using isolated guinea-pig ileum. However, at concentrations ranging from 100 to 800 µg/ml the extract actually exhibited spasmogenic activity [Izzo 1996].

A 70% ethanolic extract of *V. tricolor* flower showed antioxidant activity in the DPPH assay in a dose-dependent manner (IC<sub>50</sub> 16.0 µg/mL versus 16.6 µg/mL for ascorbic acid) [Piana 2013].

Flavonoid fractions from a methanolic extract and rutin demonstrated antioxidant activity in the Trolox (IC<sub>50</sub> from 0.12 µg/mL to 17.9 µg/mL) and DPPH assays (IC<sub>50</sub> from 4.0 µg/mL to 53.0 µg/mL) [Vukics 2008b].

An ethyl acetate fraction from a 70% ethanolic extract of *V. tricolor* herb significantly decreased the diameter of blood vessels on chicken chorioallantoic membrane (p<0.05 at 40 µg/egg), while the number of newly formed blood vessels was not suppressed [Sadeghnia 2014].

**In vivo experiments**

The antinociceptive and anti-inflammatory effect of a gel containing a dried ethanolic (70%) extract of *V. tricolor* flower (at 1%, 3% and 10%) was investigated in adult male Wistar rats with UVB-induced sunburn. The extract (3% in gel) prevented static (100%) and dynamic (49%) mechanical allodynia and

paw oedema (61%). The induced increase in myeloperoxidase activity was inhibited (89%) by the gel (3%). The results were comparable to those obtained with a 1% silver sulfadiazine cream [Piana 2013].

A tincture of *V. tricolor* herb (1:10, ethanol 70%) orally administered to adult male rats (1 mL/100 g) showed a moderate diuretic effect (diuretic index: 1.103; saluretic index Na<sup>+</sup>: 1.181; saluretic index K<sup>+</sup>: 1.365) [Toiu 2009].

In old experiments wild pansy showed anti-inflammatory activity in animals [Papay 1987] and improvement of induced eczema in rats when the fresh herb was added to their diet for 2 months [Hänsel 1994].

**Pharmacological studies in humans**

No data available.

**Clinical studies**

No data available.

**Pharmacokinetic properties**

No data available.

**Preclinical safety data**

No data available.

**Clinical safety data**

No data available.

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# E/S/C/O/P MONOGRAPHS

## MOST RECENT VERSIONS

Title	Common name	Publication
ABSINTHII HERBA	Wormwood	Second Edition, 2003
AGNI CASTI FRUCTUS	Agnus Castus	Second Edition, 2003
AGRIMONIAE HERBA	Agrimony	Supplement 2009
ALCHEMILLAE HERBA	Lady's Mantle	Online Series, 2013
ALLII SATIVI BULBUS	Garlic	Second Edition, 2003
ALOE BARBADENSIS	Barbados Aloes	Online Series, 2014
ALOE CAPENSIS	Cape Aloes	Online Series, 2014
ALTHAEAE RADIX	Marshmallow Root	Second Edition, 2003
ANGELICAE RADIX	Angelica Root	Supplement 2009
ANISI FRUCTUS	Aniseed	Online Series, 2014
ARNICAE FLOS	Arnica Flower	Second Edition, 2003
BALLOTAE NIGRAE HERBA	Black Horehound	Online Series, 2015
BETULAE FOLIUM	Birch Leaf	Online Series, 2015
BOLDI FOLIUM	Boldo Leaf	Second Edition, 2003
CALENDULAE FLOS	Calendula Flower	Second Edition, 2003
CAPSICI FRUCTUS	Capsicum	Supplement 2009
CARVI FRUCTUS	Caraway Fruit	Second Edition, 2003
CARYOPHYLLI AETHEROLEUM	Clove Oil	Online Series, 2014
CENTAURII HERBA	Centaury	Online Series, 2015
CENTELLAE ASIATICAE HERBA	Centella	Supplement 2009
CHELIDONII HERBA	Greater Celandine	Second Edition, 2003
CIMICIFUGAE RHIZOMA	Black Cohosh	Online Series, 2011
CINNAMOMI CORTEX	Cinnamon	Second Edition, 2003
COLAE SEMEN	Cola	Online Series, 2014
CRATAEGI FOLIUM CUM FLORE	Hawthorn Leaf and Flower	Second Edition, 2003
CRATAEGI FRUCTUS	Hawthorn Berries	Supplement 2009
CUCURBITAE SEMEN	Pumpkin Seed	Supplement 2009
CURCUMAE LONGAE RHIZOMA	Turmeric	Second Edition, 2003
CURCUMAE XANTHORRHIZAE RHIZOMA	Javanese Turmeric	Supplement 2009
CYNARAE FOLIUM	Artichoke Leaf	Supplement 2009
ECHINACEAE ANGUSTIFOLIAE RADIX	Narrow-leaved Coneflower Root	Supplement 2009
ECHINACEAE PALLIDAE RADIX	Pale Coneflower Root	Supplement 2009
ECHINACEAE PURPUREAE HERBA	Purple Coneflower Herb	Supplement 2009
ECHINACEAE PURPUREAE RADIX	Purple Coneflower Root	Supplement 2009
ELEUTHEROCOCCI RADIX	Eleutherococcus	Supplement 2009
EUCALYPTI AETHEROLEUM	Eucalyptus Oil	Second Edition, 2003
FILIPENDULAE ULMARIAE HERBA	Meadowsweet	Online Series, 2015
FOENICULI FRUCTUS	Fennel	Second Edition, 2003
FRANGULAE CORTEX	Frangula Bark	Second Edition, 2003
FUMARIAE HERBA	Fumitory	Supplement 2009
GENTIANAE RADIX	Gentian Root	Online Series, 2014
GINKGO FOLIUM	Ginkgo Leaf	Second Edition, 2003
GINSENG RADIX	Ginseng	Second Edition, 2003
GRAMINIS RHIZOMA	Couch Grass Rhizome	Supplement 2009
GRINDELIAE HERBA	Grindelia	Online Series, 2015
HAMAMELIDIS AQUA	Hamamelis Water	Online Series, 2012
HAMAMELIDIS CORTEX	Hamamelis Bark	Online Series, 2012
HAMAMELIDIS FOLIUM	Hamamelis Leaf	Online Series, 2012
HARPAGOPHYTI RADIX	Devil's Claw Root	Supplement 2009
HEDERAE HELICIS FOLIUM	Ivy Leaf	Second Edition, 2003
HIPPOCASTANI SEMEN	Horse-chestnut Seed	Second Edition, 2003
HYDRASTIS RHIZOMA	Goldenseal rhizome	Online Series, 2013
HYPERICI HERBA	St. John's Wort	Second Edition, 2003
JUNIPERI PSEUDO-FRUCTUS	Juniper	Second Edition, 2003
LAVANDULAE FLOS/AETHEROLEUM	Lavender Flower/Oil	Supplement 2009
LICHEN ISLANDICUS	Iceland Moss	Second Edition, 2003
LINI SEMEN	Linseed	Second Edition, 2003

LIQUIRITIAE RADIX	Liquorice Root	Second Edition, 2003
LUPULI FLOS	Hop Strobile	Second Edition, 2003
MALVAE FLOS	Mallow Flower	Supplement 2009
MARRUBII HERBA	White horehound	Online Series, 2013
MATRICARIAE FLOS	Matricaria Flower	Second Edition, 2003
MELALEUCAE AETHEROLEUM	Tea Tree Oil	Supplement 2009
MELILOTI HERBA	Melilot	Second Edition, 2003
MELISSAE FOLIUM	Melissa Leaf	Online Series, 2013
MENTHAE PIPERITAE AETHEROLEUM	Peppermint Oil	Second Edition, 2003
MENTHAE PIPERITAE FOLIUM	Peppermint Leaf	Second Edition, 2003
MENYANTHIDIS TRIFOLIATAE FOLIUM	Bogbean Leaf	Online Series, 2013
MILLEFOLII HERBA	Yarrow	Supplement 2009
MYRRHA	Myrrh	Online Series, 2014
MYRTILLI FRUCTUS	Bilberry Fruit	Online Series, 2014
OLIBANUM INDICUM	Indian Frankincense	Supplement 2009
ONONIDIS RADIX	Restharrow Root	Online Series, 2015
ORTHOSIPHONIS FOLIUM	Java Tea	Online Series, 2014
PASSIFLORAE HERBA	Passion Flower	Second Edition, 2003
PAULLINIAE SEMEN	Guarana Seed	Supplement 2009
PELARGONII RADIX	Pelargonium Root	Online Series, 2015
PIPERIS METHYSTICI RHIZOMA	Kava-Kava	Second Edition, 2003
PLANTAGINIS LANCEOLATAE FOLIUM/HERBA	Ribwort Plantain Leaf/Herb	Online Series, 2013
PLANTAGINIS OVATAE SEMEN	Ispaghula Seed	Second Edition, 2003
PLANTAGINIS OVATAE TESTA	Ispaghula Husk	Second Edition, 2003
POLYGALAE RADIX	Senega Root	Second Edition, 2003
PRIMULAE RADIX	Primula Root	Second Edition, 2003
PRUNI AFRICANAE CORTEX	Pygeum Bark	Supplement 2009
PSYLLII SEMEN	Psyllium Seed	Second Edition, 2003
RATANHIAE RADIX	Rhatany Root	Supplement 2009
RHAMNI PURSHIANI CORTEX	Cascara	Online Series, 2015
RHEI RADIX	Rhubarb	Second Edition, 2003
RIBIS NIGRI FOLIUM	Blackcurrant Leaf	Second Edition, 2003
ROSAE PSEUDO-FRUCTUS	Dog Rose Hip	Supplement 2009
ROSMARINI FOLIUM	Rosemary Leaf	Second Edition, 2003
RUSCI RHIZOMA	Butcher's Broom	Second Edition, 2003
SALICIS CORTEX	Willow Bark	Second Edition, 2003
SAMBUCI FLOS	Elder flower	Online Series, 2013
SALVIAE OFFICINALIS FOLIUM	Sage Leaf	Second Edition, 2003
SALVIA TRILOBAE FOLIUM	Sage Leaf, Three-lobed	Online Series, 2014
SENNAE FOLIUM	Senna Leaf	Second Edition, 2003
SENNAE FRUCTUS ACUTIFOLIAE	Alexandrian Senna Pods	Second Edition, 2003
SENNAE FRUCTUS ANGUSTIFOLIAE	Tinnevely Senna Pods	Second Edition, 2003
SERENOAE REPENTIS FRUCTUS (SABAL FRUCTUS)	Saw Palmetto Fruit	Second Edition, 2003
SERPYLLI HERBA	Wild Thyme	Online Series, 2014
SOLIDAGINIS VIRGAUREAE HERBA	European Golden Rod	Second Edition, 2003
SILYBI MARIANI FRUCTUS	Milk Thistle Fruit	Supplement 2009
SYMPHYTI RADIX	Comfrey Root	Online Series, 2012
TANACETI PARTHENII HERBA	Feverfew	Online Series, 2014
TARAXACI FOLIUM	Dandelion Leaf	Second Edition, 2003
TARAXACI RADIX	Dandelion Root	Second Edition, 2003
THYMI HERBA	Thyme	Second Edition, 2003
TORMENTILLAE RHIZOMA	Tormentil	Online Series, 2013
TRIGONELLAE FOENUGRAECI SEMEN	Fenugreek	Second Edition, 2003
URTICAE FOLIUM/HERBA	Nettle Leaf/Herb	Second Edition, 2003
URTICAE RADIX	Nettle Root	Online Series, 2015
UVAE URSI FOLIUM	Bearberry Leaf	Online Series, 2012
VACCINII MACROCARPI FRUCTUS	Cranberry	Supplement 2009
VALERIANAE RADIX	Valerian Root	Supplement 2009
VERBASCI FLOS	Mullein Flower	Online Series, 2014
VIOLAE HERBA CUM FLORE	Wild Pansy	Online Series, 2015
VITIS VINIFERA FOLIUM	Red Vine Leaf	Supplement 2009
ZINGIBERIS RHIZOMA	Ginger	Supplement 2009



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