



2025

Company Profile

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Pt^{Cell} for Pharmaceutical Industries



Welcome to Pt^{Cell}

We identify, develop and produce standardized active ingredients of herbal and botanical origin for pharmaceutical, nutraceutical, cosmetics and veterinary finished dosage forms.





Creatum et Productum

Developed & Produced.
This is what drive us.
To change with a specific
Direction, to progress and
To acquire a benchmark
Over a period of time. and
Finally to generate, make it
Available and to provide it.
This is our statement,
A clear vision of reliability
in mind.



For over 20 years _____

Pt^{cell} ownership explore all the aspects of pharmaceutical business and industry through the management of the B to B business of APIs and partnership with major players in the pharmaceutical finished product industry. We've seen it all—and we're passionate about making a difference.

Specialization for a larger audience _____

is our idea of creating value in the pharmaceutical sector.

Through our experience we developed a powerful believe: FEW SPECIALIZED APIs for a VERY SPECIALIZED COMPANY. Acting through our strongest believe, by converging the words “global” and “local” into the single word “GLOCAL” : GLOCAL MANAGEMENT in a sense of “think globally and act locally.”

In 2018

Pt^{cell} started its activity by concretizing its vision of developing **SPECIALIZED APIs**. Each product developed by the Ptcell work team results from countless hours of research. Our goal was to adapt our developed know-how to the process of industrialization so that each active ingredient can be manufactured while meeting GMP guidelines specific requirements.

A scale up process with a clear vision of reliability in mind: “**CREATUM et PRODUCTUM**”, the Latin wording meaning “DEVELOPED AND PRODUCED”.

It thereby certifies our journey as Pt^{cell}.

“A RESPECTFUL, SPECIALIZED, GLOBAL COMPANY”, with the aim of creating value:

- By hiring people
- By the power of partnership and relationship with our stakeholders
- Integrated with the community through ethical standards
- With an inclusive and open culture

What We Promise, We Deliver



Technologies & Services

As a manufacturer of botanical and herbal extracts up to date with European and U.S. authorities latest requirements, we are committed to adopt state of the art technologies for the IDENTIFICATION, DEVELOPMENT and PRODUCTION of our raw materials and extracts



Pt^{cell} is committed to follow the "Quality Systems Approach to Pharmaceutical Current Good Manufacturing Practice Regulations" issued by FDA, and with ISO 9001 guidelines, with the intent to integrate QUALITY SYSTEM and RISK MANAGEMENT approaches into GMP with the aim of always encouraging the adoption of modern and innovative manufacturing technologies and integrated quality systems.

To adopt digital tools streamline operation, improve quality, and make it possible to produce our products more efficiently. A Quality Management System that is fully compliant and consistent with current Good Manufacturing Practice regulations.

The 7 key concepts of our Quality Management System:

Quality

Refers to the strength, purity, and other quality characteristics meant to ensure a product's safety and effectiveness.

Quality by Design and Product Development

Designing and developing a product and associated manufacturing processes that will be used during product development to ensure that the product consistently attains a predefined quality.

Quality Risk Management

This includes assessing the risks of quality issues, selecting and implementing risk management controls commensurate with the level of risk, and evaluating the results of the risk management efforts.

Corrective Action and Preventive Action (CAPA)

Focuses on investigating, understanding, and correcting discrepancies while preventing their recurrence.

Change Control

Managing change to prevent unintended consequences.

Quality Unit

A group within Pt^{cell} that promotes quality in general practice.

Six-System Inspection Model

A model that can help us comply with CGMP regulations. The six systems referred to in this inspection model are: quality, production, facilities and equipment, laboratory controls, materials, and packaging and labeling.

This lead to the benchmark of our management philosophy. In every division of Ptcell we follow the FDA overarching philosophy articulated in both the CGMP regulations and in robust modern quality systems:

"Quality Should Be Built Into The Product, And Testing Alone can't Be Relied On To Ensure Product Quality"



Products

Our quality and our know-how are built in our products, through each step of our Standard Operating Procedure

Ivy Leaf

Standardized As
Hederacoside C

Echinacea

Standardized As
Total Polyphenols

Ginkgo

Standardized As
Flavone Glycosides

Thyme

Standardized As Thymol

Fennel

Standardized As
Trans-Anethole

Chamomile

Standardized As
Apigenin-7-glucoside

Rosemary

Standardized As
Rosmarinic Acid

Anise

Standardized As
Trans-Anethole

Rutin

Standardized As Rutin

Uva Ursi

Standardized As Arbutin

Peppermint

Standardized As Menthol

Eucalyptus

Standardized As
1,8 Cineol

Tilia

Standardized As
Total Flavonoids

Milk Thistle

Standardized As
Total Silymarin

Senna

Standardized As
Hydroxyanthracene
Glycosides

Ivy Leaf



Species: Araliaceae

Other Names: ivy, common ivy,
Atlantic ivy, English ivy

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Scientific name
Hedera helix

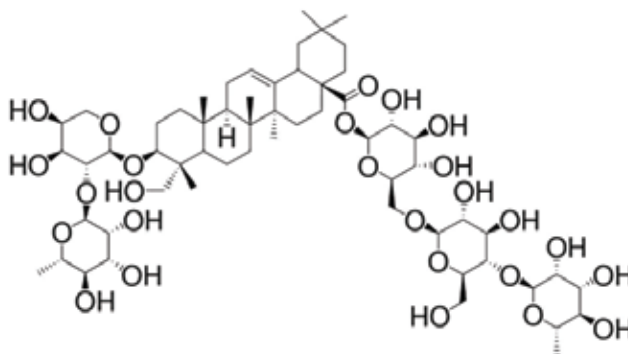
English name
ivy

Botanical name
Hedera helix L

Extract information:

Main Constituents

✓ Hederacoside C



The chemical structure of Hederacoside C

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by HPLC

Hederacoside C

Specifications: ≥10 (HPLC)

Therapeutic area

- ✓ Following a review, the Committee on Herbal Medicinal Products (HMPC) found that we can use ivy leaf preparations as an expectorant (a medicine which helps to bring up phlegm) for productive (chesty) coughs.

Echinacea



Species: Asteraceae

Other Names: Echinacea purpurea, the eastern purple coneflower, purple coneflower, hedgehog coneflower, or echinacea

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Echinaceae
purpureae herba

English common name

Purple
Coneflower Herb

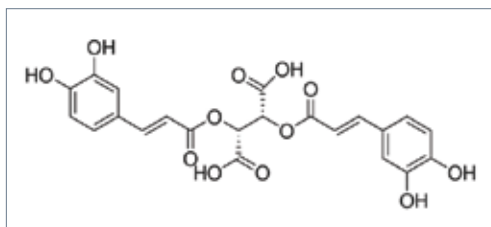
Botanical name

Echinacea purpurea (L.)
Moench

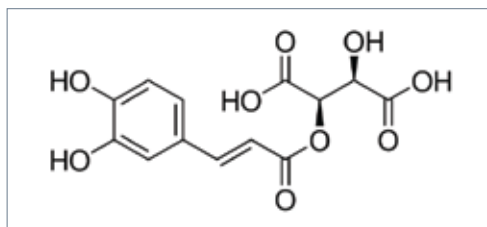
Extract information:

Main Constituents

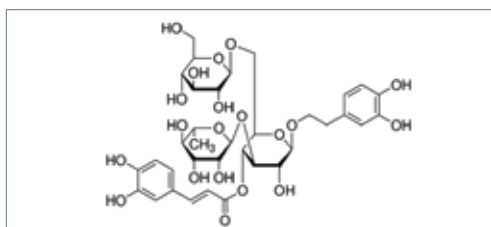
☑ Caffeic acid derivatives



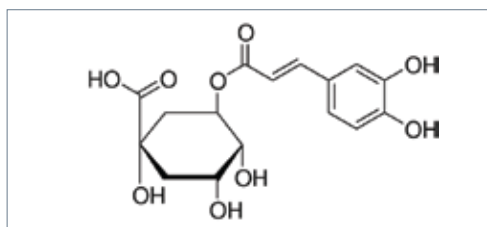
Chicoric Acid



Caftaric Acid



Echinacoside



Chlorogenic Acid

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by HPLC

Total Phenols (Calculated as the sum of caftaric acid, chlorogenic acid, chicoric acid)

Specifications: ≥%4.0 HPLC and UV

Therapeutic area

According to European Medicines Agency (EMA)

☑ Skin disorders and minor wounds.

☑ Cough and cold.

Ginkgo



Species: Ginkgoaceae

Other Names: ginkgo, Ginkgo biloba, fossil tree, maidenhair tree, Japanese silver apricot, baiguo, yinhsing

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Ginkgo folium

English name
Ginkgo leaf

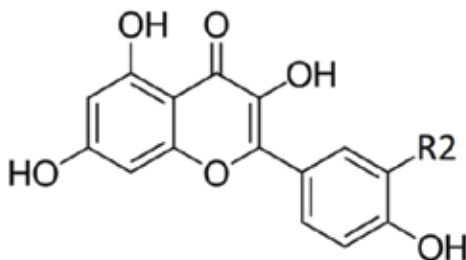
Botanical name
Ginkgo biloba L.

Extract information:

Main Constituents

✓ Quercetin, Kaempferol, and Isorhamnetin

Compound	R2
Kaempferol	H
Quercetin	OH
Isorhamnetin	OCH3



The chemical structure of Quercetin, Kaempferol, and Isorhamnetin.

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by HPLC

Total Ginkgo Flavonglycosides

Specifications: ≥ %24

Therapeutic area

According to European Medicines Agency (EMA)

✓ Culatory disorders.

Thyme



Species: Lamiaceae

Other Names: Thymus vulgaris
(common thyme, German thyme,
[1] garden thyme[2] or just thyme)

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Thymi herba

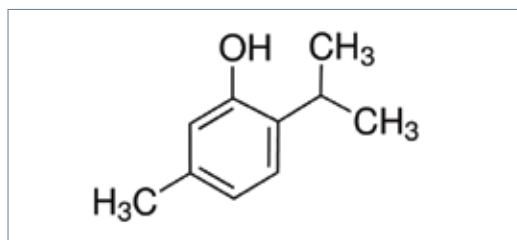
English name
Thyme

Botanical name
Thymus vulgaris L.;
Thymus zygis L.

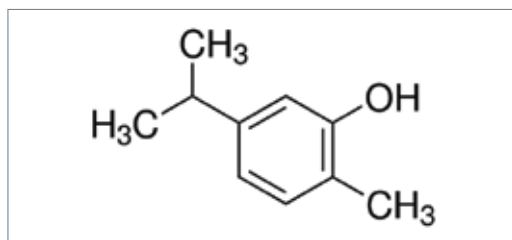
Extract information:

Main Constituents

✓ Thymol and carvacrol



The chemical structure of Thymol



The chemical structure of carvacrol

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by GC

Assay for Thymol

Specifications: ≥%0.03 GC

Therapeutic area

According to European Medicines Agency (EMA)

✓ Cough and cold.

Pharmacopoeial and other Monographs

✓ BHC 1992.
✓ BP 2007.
✓ Martindale 35th edition.

✓ BHP 1996.
✓ Complete German Commission E (Linden).
✓ PH Eur 2007.

Fennel



Species: Apiaceae

Other Names: sweet fennel

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Foeniculum
vulgare Mill

English name

Fennel

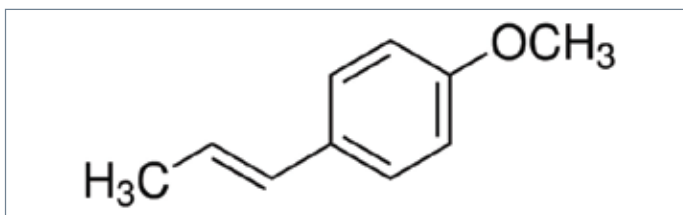
Botanical name

Foeniculum vulgare
Mill

Extract information:

Main Constituents

✓ trans - Anethole



The chemical structure of trans - anethole

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by HPLC

trans - Anethole

Specifications: ≥ 0.0007 HPLC

Therapeutic area

- ✓ Anticancer.
- ✓ Treatment of hypertension.
- ✓ Antioxidant.
- ✓ HepatoProtective.
- ✓ Antistress.
- ✓ Nootropic.
- ✓ Estrogenic properties.
- ✓ Anticolitic.
- ✓ Diuretic.
- ✓ Bronchodilatory Effects.
- ✓ Human Liver Cytochrome P3 450A4. Inhibitory Activity.
- ✓ Antimicrobial and Antiviral.
- ✓ Antiinflammatory.
- ✓ Antiallergic.
- ✓ Anxiolytic.
- ✓ Memory-Enhancing properties.
- ✓ Antihirsutism.
- ✓ Expectorant.
- ✓ Antinociceptive.
- ✓ Cardiovascular.
- ✓ Antiaging Effects.

Chamomile



Species: Asteraceae

Other Names: Chamomilla recutita,
Hungarian Chamomile, Matricaire
Camomille, Sweet False Chamomile,
True Chamomile, Wild Chamomile.

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Matricariae flos

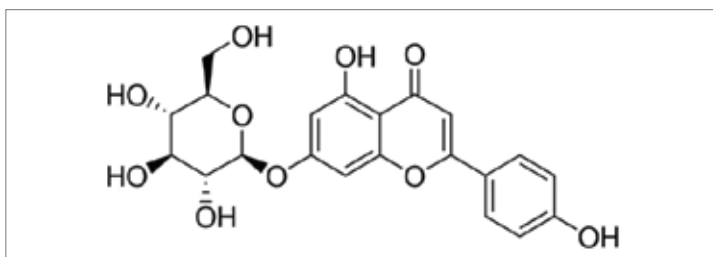
English name
Matricaria Flower

Botanical name
Matricaria recutita L.

Extract information:

Main Constituents

✓ Apigenin-7-glucoside



The chemical structure of Apigenin-7-glucoside

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by HPLC

Assay for Apigenin-7-glucoside

Specifications: NLT 1 %

Therapeutic area

According to European Medicines Agency (EMA)

- ✓ Mouth and throat disorders.
- ✓ Cough and cold.
- ✓ Skin disorders and minor wounds.
- ✓ Gastrointestinal disorders.

Chamomile extract in monographs

Matricaria flower has been included into collections of monographs. The most important amongst them are:

- ✓ European Pharmacopeia (Ph. Eur. 8.0).
- ✓ British Pharmacopeia (2008).
- ✓ ESCOP Monographs (2003).
- ✓ United States Pharmacopeia 29 / NF(2006) 24
- ✓ German Kommission E monographs (1984).
- ✓ British Herbal Pharmacopeia (1983).
- ✓ WHO Monographs (1999).

Rosemary



Species: Lamiaceae

Other Names: *Salvia rosmarinus*, commonly known as rosemary, is a shrub with fragrant, evergreen, needle-like leaves and white, pink, purple, or blue flowers, native to the Mediterranean region.[3] Until 2017, it was known by the scientific name *Rosmarinus officinalis*.

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Rosmarinus officinalis L

English name

Rosemary

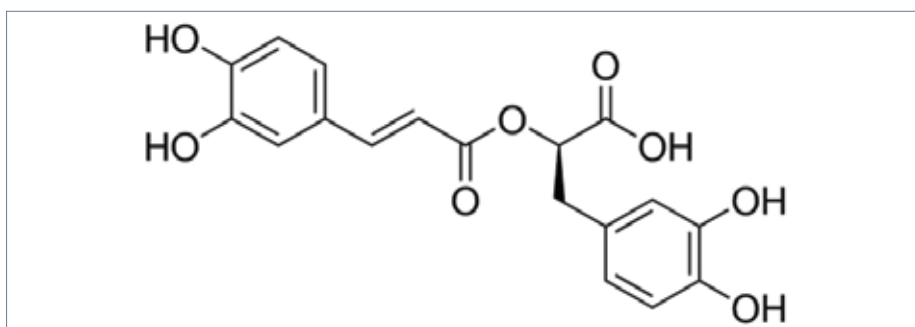
Botanical name

Rosmarinus officinalis L

Extract information:

Main Constituents

✓ Rosemarinic Acid



The chemical structure of Rosmarinic acid

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by HPLC

Rosemarinic Acid

Specifications: ≥%3.0

Therapeutic area

- ✓ As a natural antioxidant, Antibacterial and antiviral.
- ✓ It protects the brain cells from the effects of the aging process and enhances memory.
- ✓ An adjuvant in the relief of minor muscular and articular pain and minor peripheral circulatory disorders.
- ✓ Widely used as a mild sedative.
- ✓ Symptomatic relief of dyspepsia and mild spasmodic disorders of the gastrointestinal tract.

Anise



Species: Apiaceae

Other Names: (Pimpinella anisum),
also called aniseed or rarely anix

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Pimpinella anisum L.

English name

Anise

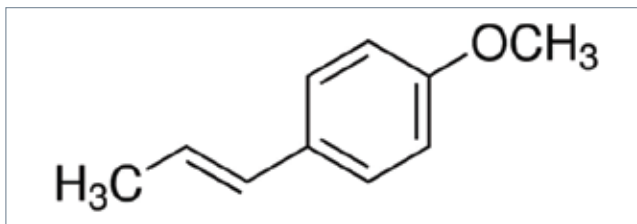
Botanical name

Pimpinella anisum L.

Extract information:

Main Constituents

✓ trans - Anethole



The chemical structure of trans - Anethole

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by HPLC

trans - Anethole

Specifications: NLT %0.1 (HPLC)

Therapeutic area

- ✓ Symptomatic treatment of mild, spasmodic gastrointestinal complaints including bloating and flatulence.
- ✓ Menstrual discomfort.
- ✓ An expectorant in cough associated with cold.
- ✓ Increasing breast milk.

Rutin



Species: Fabaceae

Other Names: rutoside, quercetin-3-rutinoside and sophorin Latin name and botanical name :- Sophora japonica L

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Rutin

English name

Rutin

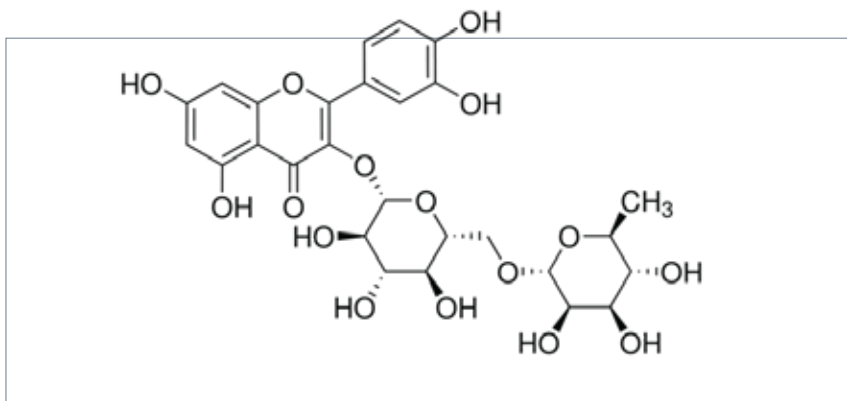
Botanical name

Rutin

Extract information:

Main Constituents

✓ Rutin



The chemical structure of Rutin

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by HPLC

Rutin by UV

Specifications: Specifications: %95% – 102

Therapeutic area

According to European Medicines Agency (EMA)

- ✓ Rutin strengthens blood vessel capillaries due to its high antioxidant and free radical scavenging action.

Uva Ursi



Species: Ericaceae

Other Names: Kinnikinnick

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Uvae ursi folium

English name

Bearberry Leaf

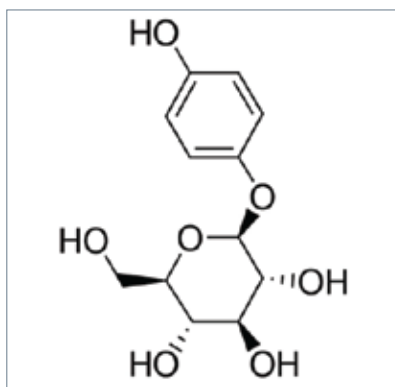
Botanical name

Arctostaphylos
uva-ursi (L.) Spreng

Extract information:

Main Constituents

✓ Arbutin



The chemical structure of Arbutin

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by HPLC

Assay for Arbutin

Specifications: ≥5% HPLC

Therapeutic area

According to European Medicines Agency (EMA)

✓ Urinary tract and genital disorders

Pharmacopoeial and other Monographs

✓ BHC 1992.

✓ BP 2007.

✓ ESCOP 2003.

✓ PH Eur 2007.

✓ BHP 1996.

✓ Complete German Commission E.

✓ Martindale 35th edition.

Peppermint



Species: Lamiaceae

Other Names: Peppermint
(*Mentha × piperita*, also known as *Mentha balsamea* Wild) is a hybrid mint, a cross between watermint and spearmint

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Mentha × piperita L., folium.

English name

Peppermint

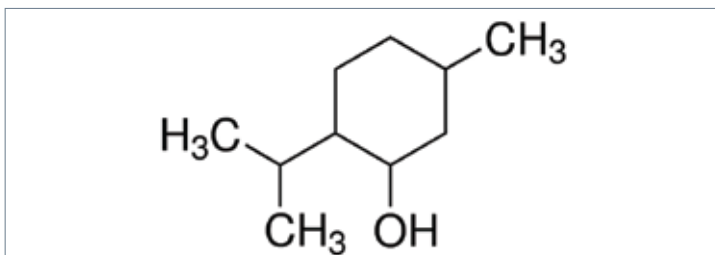
Botanical name

Mentha × piperita L., folium.

Extract information:

Main Constituents

✓ Menthol



The chemical structure of Menthol

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by GC

Menthol

Specifications: NLT %0.1 GC

Therapeutic area

- ✓ The Commission E approved the internal use of peppermint leaf for spastic complaints of the gastrointestinal tract, the gallbladder, and bile ducts.
- ✓ The German Standard License for peppermint leaf tea indicates its use for gastrointestinal and gallbladder ailments.
- ✓ The British Herbal Compendium indicates peppermint leaf for dyspepsia, flatulence, intestinal colic, and biliary disorders. ESCOP indicates its use for symptomatic treatment of digestive disorders such as dyspepsia, flatulence, gastritis, and enteritis.

Eucalyptus



Species: Apiaceae

Other Names: Undefined

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name

Eucalyptus globulus
Labill. (Myrtaceae)

English name

EUCALYPTUS

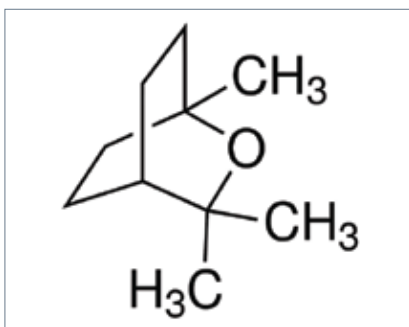
Botanical name

Eucalyptus globulus Labill.
(Myrtaceae)

Extract information:

Main Constituents

✓ 1,8 - cineol



The chemical structure of 1,8 - cineol

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S
sample by GC

1,8 cineol

Specifications: NLT %0.08 GC

Therapeutic area

- ✓ Used for relief of cough associated with cold
- ✓ Used for the symptomatic relief of localized muscle pain.
- ✓ Swelling of the bladder and urethra.
- ✓ Used in specified indications exclusively based upon long-standing use.

Tilia



Species: Malvaceae

Other Names: small-leaved lime or small-leaved linden, little-leaf or littleleaf linden, pry or pry tree

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Tiliae flos

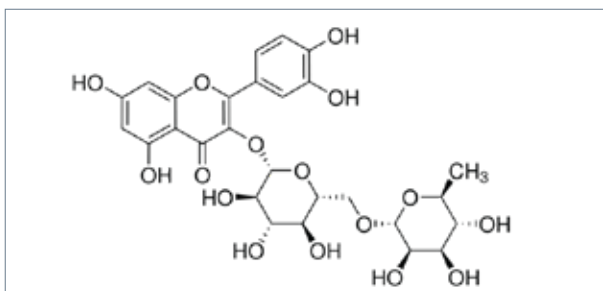
English name
Lime flower

Botanical name
Tilia cordata Miller,
Tilia platyphyllos Scop.,
Tilia x vulgaris Heyne

Extract information:

Main Constituents

- ✓ flavonoids (which act as antioxidants)
- ✓ volatile oil, and mucilage components (which are soothing and reduce inflammation)
- ✓ The plant also contains tannins that can act as an astringent



The chemical structure of Rutin

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: TLC-Plant Drug Analysis

Flavonoids as Rutin

Specifications: ≥8.0 %

Therapeutic area

According to European Medicines Agency (EMA)

- ✓ Cough and cold.
- ✓ Mental stress and mood disorders.

Pharmacopoeial and other Monographs

- ✓ BHC 1992.
- ✓ BP 2007.
- ✓ Martindale 35th edition.
- ✓ BHP 1996.
- ✓ Complete German Commission E (Linden).
- ✓ PH Eur 2007.

Milk Thistle



Species: *S. Marianum*

Other Names: Lady's Thistle, Mariana lactea Hill, Marian Thistle, Mediterranean

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Silybum marianum

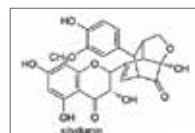
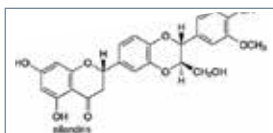
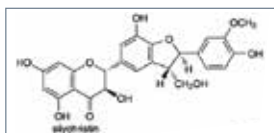
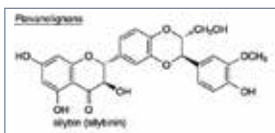
English name
Milk Thistle

Botanical name
Silybum marianum

Extract information:

Main Constituents

✓ **Total Silymarin**
(Silybin A and silybin B & Silydianin and silychristin & IsosilybinA & Isosilybin B)



Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications:
Identical to R S sample by HPLC

Total Silymarin (Calculated as silybin)

Specifications: 90.0%-110.0% of the labeled amount of total Silymarin is found on the dried basis.

- Silybin A and silybin B, Calculated with reference to total silymarin 40%-65%
- Silydianin and silychristin, Calculated with reference to total silymarin 20%-45%
- Isosilybin A and Isosilybin B, Calculated with reference to total silymarin 10%-20%

Therapeutic area

According to European Medicines Agency (EMA)

- ✓ Disorders of the liver, spleen and gall bladder such as jaundice and gall bladder colic, dietary supplement for hepatitis, cirrhosis, jaundice, diabetes, indigestion, and other conditions.

Pharmacopoeial and other Monographs

- ✓ BP 2007(G84) Complete German Commission E(G3) Martindale 35th edition(G85) Ph Eur 2007(G81) USP29/NF24(G86)

Senna



Species: Senna alexandrina Mill. (Leguminosae)

Other Names: Alexandrian Senna, Cassia acutifolia Delille, C. angustifolia M.Vahl, C. alexandrina (Garsault) Thell., C. senna L., Indian Senna, Khartoum Senna, Senna acutifolia (Delille) Batka, S. alexandrina Garsault, S. angustifolia (Vahl) Batka, Tinnevely Senna

Type: Dry Extract

Key facts from European Medicines Agency (EMA)

Latin name
Sennae folium

English name
Senna leaf

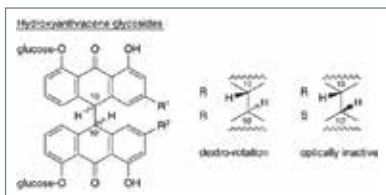
Botanical name
Cassia senna L., Cassia angustifolia vahl

Extract information:

Main Constituents



Hydroxyanthracene Glycosides, expressed as Sennoside B



	R ¹	R ²	isomeric form
sennoside A	COOH	COOH	(+), trans
sennoside B	COOH	COOH	meso, cis
sennoside C	COOH	CH ₂ OH	(+), trans
sennoside D	COOH	CH ₂ OH	meso, cis

The chemical structure of Hydroxyanthracene Glycosides

Specifications Sheet

Botanicals Extracts comply with the requirements of any relevant monograph in the European Pharmacopoeia and/or European Directives applicable to the end use of the extract.

Identification

Specifications: Identical to R S sample by UV

Hydroxyanthracene Glycosides, expressed as Sennoside B

Specifications: 5.5% to 8.0% (UV)

Therapeutic area

According to European Medicines Agency (EMA)

✓ constipation

Pharmacopoeial and other Monographs

✓ BHC 1992(G6) BHP 1996(G9) BP 2007(G84) Complete German Commission E(G3) EMEA HMPc Community Herbal Monograph(1) ESCOP 2003(G76) Martindale 35th edition(G85) Ph Eur 2007(G81) USP29/NF24(G86) WHO volume 1999 1(G63)

Notes



Organizational Model

Each dimension of the Excellence Framework within our Organizational Model represent an area in which initiatives are designed to achieve professional excellence : Access & Success, Climate & Intergroup, Knowledge & Development, Infrastructure & Investment, Community & Partnership.





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