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Medicinal plants of Russian Pharmacopoeia

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PLANT BASED
CONFERENCE

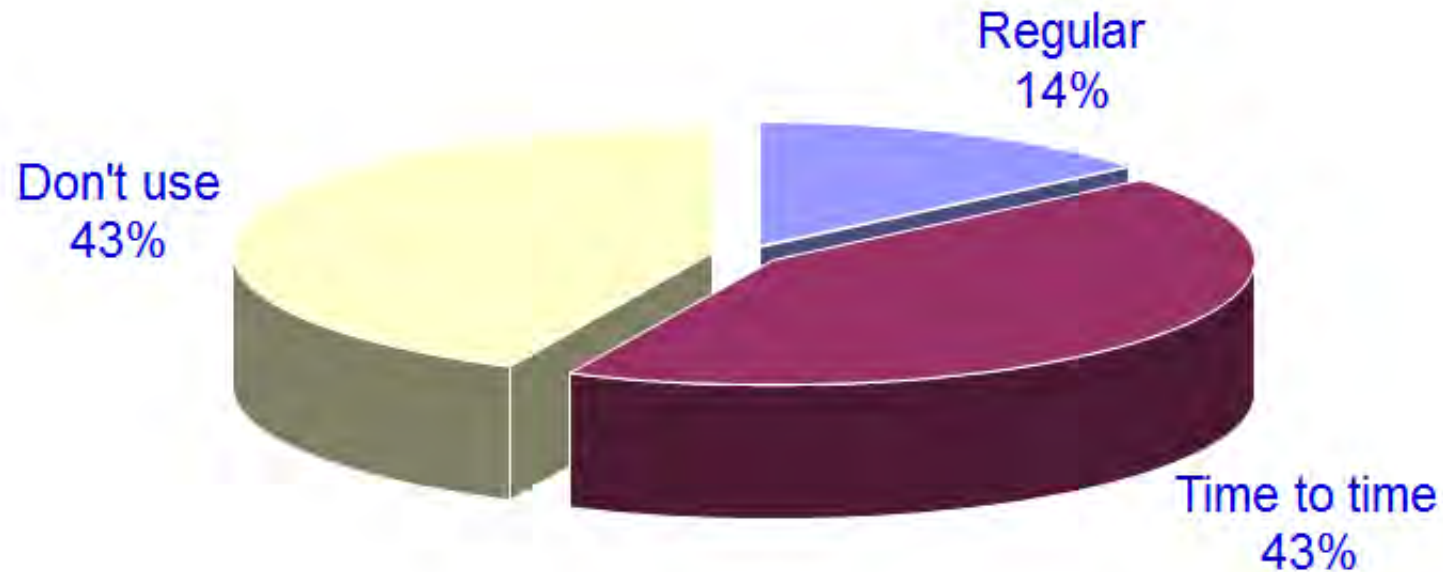


December 10, 2020

More than 21000 medicinal plants are native to the flora of the Russian Federation. Among these plants, about 3000 plants have been studied, and some active constituents characterized.



For centuries, plants not only provided food and clothes but also have been used for the treatment of different ailments. The Russian population believes in phytotherapy and could be described as a "herbophilous" society.





The beneficial effects of plants were carefully collected by “knowledgeable experts” (znahar = “знахарь” in Russian) and recorded in chronicles and manuscripts.





The predecessors of the pharmacopoeia in Russia was "Cool vineyard" (rus= "Прохладный вертоград") (1672) known as

the medical textbook of the monk Filagria, a lay brother of Patriarch Adrian. Most of the 340 chapters of "Cool vineyard" were devoted to the description of the healing properties of plants, food, minerals and provide information about their use for hygienic and medical purposes



Catherine the Great established an Imperial Medicinal Collegium in 1763.

The first Russian military field "Pharmacopoeia Castrensis Rossica" was published under the auspices of the Medical Collegium in 1765.

PHARMACOPOEA

ROSSICA.



PETROPOLI. MDCCLXXVIII.

In 1778, The Pharmacopoeia Rossica was published in St. Petersburg.

This book contains 770 monographs, of which 316 texts are on herbal medicinal preparations

Regulatory documents in Russia

On May 29, 2014, the Russian Federation, Belarus and Kazakhstan signed the treaty of the Eurasian Economic Union (EAEU). Later Armenia and Kyrgyzstan also joined the EAEU. Nowadays, the EAEU has an integrated market for 180 million people.



Regulatory documents in Russia

The Federal Law No. 61 FZ (dated 12.04.2010 with addendums 2010-2020) "Regarding the circulation of drugs" is applies to all drug categories, including antibiotics, animals derived drugs, conventional drugs (mostly made by chemical synthesis), **herbal medicinal products**, etc.



МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ
РОССИЙСКОЙ ФЕДЕРАЦИИ

ГОСУДАРСТВЕННАЯ
ФАРМАКОПЕЯ
РОССИЙСКОЙ ФЕДЕРАЦИИ

XIV издание

Москва
2018

Individual monographs for HMPs as well for the medicinal plants are available in the fourth volume.

Pharmacopeia includes 107 individual monographs for plants

The list of plants referred in Russian Pharmacopoeia 1^{4th} edition

Monograph title and number	Latin name of plant, family (as in the State Pharmacopoeia of the Russian Federation)	Pharmacological group
Achilleae millefolii herba FS.2.5.0101.18	<i>Achillea millefolium</i> L., Asteraceae	Herbal remedy* Hemostatic, anti-inflammatory***
Adonis vernalis herba FS.2.5.0066.18	<i>Adonis vernalis</i> L., Ranunculaceae	Cardiotonic***
Aervae lanatae herba FS.2.5.0054.15	<i>Aerva lanata</i> (L.) Juss., Amaranthaceae	Diuretic*
Alni fructus FS.2.5.0087.18	<i>Alnus incana</i> (L.) Moench and <i>Alnus glutinosa</i> (L.) Gaertn., Betulaceae	Astringent*
Althaeae radices FS.2.5.0001.15	<i>Althaea officinalis</i> L., <i>Althaea armeniaca</i> Ten., Malvaceae	Expectorant*
Amygdali dulcis semen FS.2.5.0085.18	<i>Prunus dulcis</i> (Mill.) D.A.Webb(syn.: <i>Amygdalus communis</i> L.), Rosaceae	Not claimed
Anethi graveolentis fructus FS.2.5.0043.15	<i>Anethum graveolens</i> L., Apiaceae	Spasmolytic*
Anisi vulgaris fructus FS.2.5.0057.18	<i>Anisum vulgare</i> Gaertn. (<i>Pimpinella anisum</i> L.), Apiaceae	Expectorant*
Araliae elatae radices FS.2.5.0058.18	<i>Aralia elata</i> (Miq.) Seem (<i>Aralia mandshurica</i> Rupr. et Maxim.), Araliaceae	Tonic and adaptogen**
Arctii radices FS.2.5.0025.15	<i>Arctium lappa</i> L., <i>Arctium tomentosum</i> Mill., <i>Arctium minus</i> (Mill.) Bernh., Asteraceae	Choleretic, diuretic*
Arctostaphylos uvae-ursi folia FS.2.5.0099.18	<i>Arctostaphylos uva-ursi</i> (L.) Spreng., Ericaceae	Diuretic*
Aroniae melanocarpae recens fructus FS.2.5.0002.15	<i>Aronia melanocarpa</i> (Michx.) Elliott., Rosaceae	Not claimed
Aroniae melanocarpae siccus fructus FS. 2.5.0003.15	<i>Aronia melanocarpa</i> (Michx.) Elliott., Rosaceae	Tonic and adaptogen** Polyvitamin**
Artemisiae absinthii herba FS.2.5.0033.15	<i>Artemisia absinthium</i> L., Asteraceae	Bitterness (appetite stimulant)*
Acori calami rhizomata FS. 2.5.0056.18	<i>Acorus calamus</i> L., Acoraceae	Bitterness (appetite stimulant)*

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Belladonnae herba FS.2.5.0020.15	<i>Atropa belladonna</i> L., <i>Atropa belladonna</i> subsp. <i>caucasica</i> (Kreyer) Avet. (syn.: <i>Atropa caucasica</i> Kreyer), Solanaceae	Cholinolytic (spasmolytic)***
Belladonnae folia FS.2.5.0077.18	<i>Atropa belladonna</i> L.s.l., Solanaceae	Cholinolytic (spasmolytic)*
Bergeniae crassifoliae rhizomata FS.2.5.0004.15	<i>Bergenia crassifolia</i> (L.) Fritsch, Saxifragaceae	Astringent*
Betulae folia FS.2.5.0005.15	<i>Betula pendula</i> Roth. (<i>Betula verrucosa</i> Ehrh.), <i>Betula pubescens</i> Ehrh., Betulaceae	Diuretic*
Betulae gemmae FS.2.5.0006.15	<i>Betula pendula</i> Roth. (<i>Betula verrucosa</i> Ehrh.), <i>Betula pubescens</i> Ehrh., Betulaceae	Diuretic*
Bidenti stripartitae herba FS.2.5.0048.15	<i>Bidens tripartita</i> L., Asteraceae	Herbal remedy* Anti-inflammatory for external use***
Bistortae rhizomata FS.2.5.0074.18	<i>Bistorta major</i> S. F. Gray (<i>Polygonum bistorta</i> L.), <i>Bistorta carnea</i> (C. Koch) Kom. (<i>P. carneum</i> C. Koch), Polygonaceae	Astringent*
Calendulae officinalis flores FS.2.5.0030.15	<i>Calendula officinalis</i> L., Asteraceae	Antiseptic and anti-inflammatory*
Capsella bursae pastoris herba FS.2.5.0090.18	<i>Capsella bursa-pastoris</i> (L.) Medik., Brassicaceae	Hemostatic*
Cari carvi fructus FS.2.5.0098.18	<i>Carum carvi</i> L., Apiaceae	Spasmolytic*
Centaureae cyani flores FS.2.5.0064.18	<i>Centaurea cyanus</i> L., Asteraceae	Choleretic**
Centaurii herba FS.2.5.0075.18	Centaurium erythraea Rafn (syn.: Centaurium minus Moench, Centaurium umbellatum Gilib., Erythraea centaurium (L.) Borkh), Centaurium pulchellum (Sw.) Druce (syn.: Erythraea pulchella (Sw.) Hornem), Gentianaceae	Bitterness (appetite stimulant) *

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Chamomillae recutita flores FS.2.5.0037.15	Chamomilla recutita (L.) Rauschert (syn.: Matricaria recutita L., Matricaria chamomilla L.), Asteraceae	Herbal remedy*
Chelidonii majoris herba FS.2.5.0105.18	Chelidonium majus L., Papaveraceae	Anti-inflammatory**
Convallariae herba Convallariae folia Convallariae flores FS.2.5.0022.15	Convallaria majalis L., Convallaria transcaucasica Utkin ex Grossh. Convallaria keiskei Mig., Liliaceae	Cardiotonic***
Coriandri sativi fructus FS.2.5.0018.15	Coriandrum sativum L., Apiaceae	Bitterness (appetite stimulant)*
Crataegi flores FS.2.5.0062.18	Crataegus sanguinea Pall. Crataegus laevigata (Poir.) DC. (syn: Crataegus oxyacantha sensu Pojark.), Crataegus korolkowii L. Henry, Crataegus altaica (Loudon) Lange, Crataegus chlorocarpa Lenn, & K. Koch, Crataegus dahurica Koehne ex Schneid., Crataegus monogyna Jacq. (syn.: Crataegus alemanniensis Cinovskis; Crataegus orientobaltica Cinovskis), Crataegus curvisepala Lindm., Crataegus x curonica Cinovskis, Crataegus x dunensis Cinovskis, Crataegus pentagyna Waldst. & Kit. Ex Willd., Rosaceae	Cardiotonic*
Crataegi fructus FS.2.5.0061.18	All species mentioned for Crataegi flores except Crataegus sanguinea Pall., Rosaceae	Cardiotonic*
Cucurbitae semina FS.2.5.0100.18	Cucurbita pepo L., Cucurbita maxima Duch., Cucurbita moschata (Duch.) Poir., Cucurbitaceae	Antihelminthic*
Daturae stramonii folia FS.2.5.0072.18	Datura stramonium L., Solanaceae	Cholinolytic (spasmolytic) ***

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Dryopteris filix-mas rhizomata FS.2.5.0089.18	Dryopteris filix-mas (L.) Schott, Dryopteridaceae	Antihelminthic***
Echinaceae purpureae herba FS.2.5.0055.15	Echinacea purpurea (L.) Moench., Asteraceae	Immunostimulant*
Eleutherococci senticosi rhizomata et radices FS.2.5.0053.15	Eleutherococcus senticosus (Rupr. et Maxim.) Maxim., Araliaceae	Tonic and adaptogen*
Equiseti arvensis herba FS.2.5.0045.15	Equisetum arvens L., Equisetaceae	Diuretic*
Eucalypti viminalis folia FS.2.5.0107.18	Eucalyptus viminalis Labill., Myrtaceae	Antiseptic*
Foeniculi vulgaris fructus FS.2.5.0102.18	Foeniculum vulgare Mill., Apiaceae	Spasmolytic*
Fragariae vescae folia FS.2.5.0016.15	Fragaria vesca L., Rosaceae	Not claimed
Frangulae alni cortex FS.2.5.0021.18	Frangula alnus Mill. (syn.: Rhamnus frangula L.), Rhamnaceae	Laxative*
Ginkgo biloba folia FS.2.5.0010.15	Ginkgo biloba L., Ginkgoaceae	Angioprotector*
Glycyrrhizae radices FS.2.5.0040.15	Glycyrrhiza glabra L., Glycyrrhiza uralensis Fisch., Fabaceae	Expectorant*
Gnaphalii uliginosi herba FS.2.5.0095.18	Gnaphalium uliginosum L. s. l., Asteraceae	Herbal remedy*
Helichrysi arenarii flores FS.2.5.0007.15	Helichrysum arenarium (L.) Moench, Asteraceae	Choleretic*
Humuli lupul fructus FS.2.5.0046.15	Humulus lupulus L., Cannabaceae	Sedative * (in combinations)
Hyoscyami nigri foliae FS.2.5.0060.18	Hyoscyamus niger L., Solanaceae	Cholinolytic (spasmolytic)***
Hyperici herba FS.2.5.0015.15	Hypericum perforatum L., Hypericum maculatum Crantz (H. quadrangulum L.), Hypericaceae	Astringent*

The list of plants referred in Russian Pharmacopoeia 1^{4th} edition

Monograph title and number	Latin name of plant, family (as in the State Pharmacopoeia of the Russian Federation)	Pharmacological group
Inonotus obliquus FS.2.5.0103.18	Inonotus obliquus (Pers.) Pil. (Fungus betulinus), Hymenochaetaceae	Herbal remedy*
Inulae helenii rhizomata et radices FS.2.5.0070.18	Inula helenium L., Asteraceae	Expectorant*
Juniperi communis fructus FS.2.5.0028.15	Juniperus communis L., Cupressaceae	Diuretic*
Laminariae thalli FS.2.5.0080.18	Laminaria japonica Aresch., Laminaria saccharina (L.) Lam., Laminariaceae	Laxative*
Ledi palustris cormus FS.2.5.0059.18	Ledum palustre L., Ericaceae	Expectorant*
Leonuri herba FS.2.5.0034.15	Leonurus quinquelobatus Gilib. (syn.: Leonurus cardiaca subsp. villosus (Desf. Ex d'Urv.) Hyl.), Leonurus cardiaca L., Lamiaceae	Sedative*
Lini usitatissimi semina FS.2.5.0026.15	Linum usitatissimum L., Linaceae	Ambient***
Meliloti herba FS.2.5.0011.15	Melilotus officinalis (L.) Desr. Melilotus altissimus Thuil., Fabaceae	Tonic and adaptogen**
Melissae officinalis herba FS.2.5.0084.18	Melissa officinalis L., Lamiaceae	Sedative*
Menthae piperitae folia FS.2.5.0029.15	Mentha piperita L., Lamiaceae	Spasmolytic*
Menyanthidis trifoliatae folia FS.2.5.0065.18	Menyanthes trifoliata L., Menyanthaceae	Bitterness (appetite stimulant) *
Ononis arvensis radices FS.2.5.0094.18	Ononis arvensis L., Fabaceae	Laxative**
Organi vulgaris herba FS.2.5.0012.15	Origanum vulgare L., Lamiaceae	Expectorant*
Orthosiphonis staminei folia FS.2.5.0088.18	Orthosiphon stamineus Benth., Lamiaceae	Diuretic*
Padi avii fructus FS.2.5.0049.15	Padus avium Mill., Rosaceae	Astringent*

The list of plants referred in Russian Pharmacopoeia 1^{4th} edition

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Panacis ginseng radices FS.2.5.0013.15	<i>Panax ginseng</i> C.A.Mey, Araliaceae	Tonic and adaptogen*
Piceae abietis strobili FS.2.5.0073.18	<i>Picea abies</i> (L.) Karst., Pinaceae	Anti-inflammatory***
Pini silvestris gemmae FS.2.5.0041.15	<i>Pinus silvestris</i> L., Pinaceae	Expectorant*
Plantaginis majoris folia FS.2.5.0032.15	<i>Plantago major</i> L., Plantaginaceae	Expectorant*
Polemonii caerulei rhizomata cum radicibus FS.2.5.0039.15	<i>Polemonium caeruleum</i> L., Polemoniaceae	Expectorant***
Polygoni avicularis herba FS.2.5.0069.18	<i>Polygonum aviculare</i> L., Polygonaceae	Diuretic*
Polygoni hydropiperis herba FS.2.5.0067.18	<i>Polygonum hydropiper</i> L., Polygonaceae	Hemostatic*
Polygoni persicariae herba FS.2.5.0068.18	<i>Polygonum persicaria</i> L., Polygonaceae	Hemostatic**
Populi gemmae FS.2.5.0042.15	<i>Populus nigra</i> L., <i>Populus balsamifera</i> L., <i>Populus canadensis</i> Marsh., <i>Populus laurifolia</i> Ledeb., <i>Populus suaveolens</i> Fisch., Salicaceae	Not claimed
Potentillae erectae rhizomata FS.2.5.0023.15	<i>Potentilla erecta</i> L. Raeusch. (syn.: <i>Potentilla tormentilla</i> Stokes.), Rosaceae	Astringent*
Quercus cortex FS.2.5.0071.18	<i>Quercus robur</i> L. (syn.: <i>Q. pedunculata</i> Ehrh.); <i>Quercus petraea</i> (Mattuschka) Liebl. (syn.: <i>Q. sessiliflora</i> Salisb.), Fagaceae	Astringent*
Rhamni catharticae fructus FS.2.5.0014.15	<i>Rhamnus cathartica</i> L., Rhamnaceae	Laxative*
Rhapontici carthamoidis rhizomata cum radicibus FS. 2.5.0091.18	Rhaponticum carthamoides (Willd.) Iljin (syn.: Leuzea carthamoides (Willd.) DC), Asteraceae	Tonic and adaptogen*

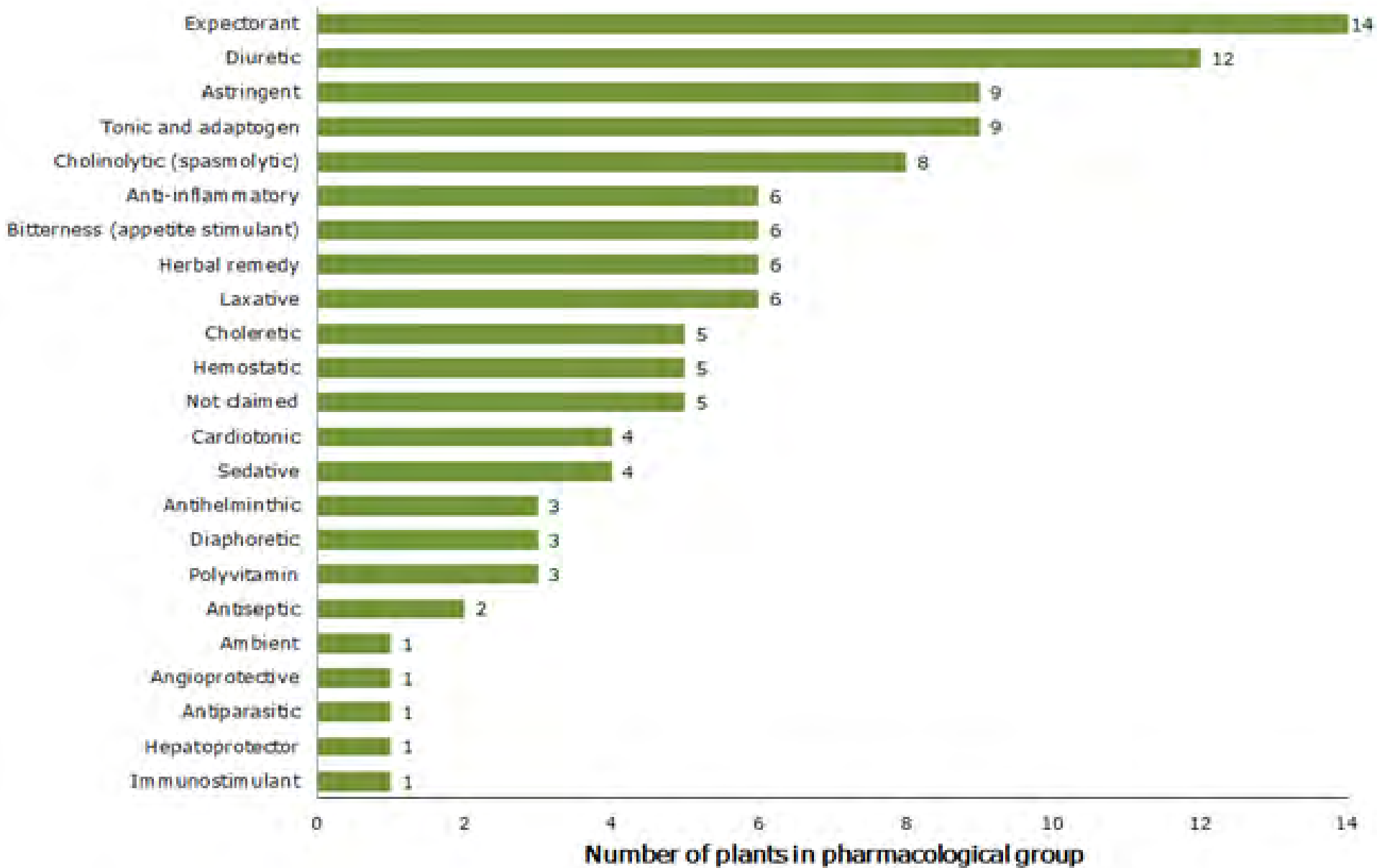
The list of plants referred in Russian Pharmacopoeia 1^{4th} edition

Monograph title and number	Latin name of plant, family (as in the State Pharmacopoeia of the Russian Federation)	Pharmacological group
Rhei palmatum radices FS.2.5.0092.18	Rheum palmatum L. var. tanguticum Maxim., Polygonaceae	Laxative**
Rhodiolae roseae rhizomata et radices FS.2.5.0036.15	Rhodiola rosea L., Crassulaceae	Tonic and adaptogen*
Rosae fructus FS.2.5.0106.18	Rosa majalis Herrm. (syn.: R. cinnamomea L.), Rosa acicularis Lindl., Rosa davurica Pall., Rosa beggeriana Schrenk., Rosa fedtschenkoana Regel., Rosa rugosa Thunb. et al. Rosaceae	Polyvitamin*
Rubiae rhizomata et radices FS.2.5.0083.18	Rubia tinctorum L., Rubia iberica (Fish. ex DC) K. Koch, Rubiaceae	Diuretic**
Rumicis conferti radices FS.2.5.0052.15	Rumex confertus Willd., Polygonaceae	Not claimed
Salviae officinalis folia FS.2.5.0051.15	Salvia officinalis L., Lamiaceae	Anti-inflammatory*
Sambuci nigrae flores FS.2.5.0008.15	Sambucus nigra L., Adoxaceae (Sambucaceae, Caprifoliaceae)	Diaphoretic*
Sanguisorbae officinalis rhizomata et radices FS.2.5.0078.18	Sanguisorba officinalis L., Rosaceae	Astringent*
Schisandrae chinensidis semina FS.2.5.0082.18	Schisandra chinensis (Turcz.) Baill., Schisandraceae	Tonic and adaptogen*
Schisandrae chinensis fructus FS.2.5.0081.18	Schisandra chinensis (Turcz.) Baill., Schisandraceae	Tonic and adaptogen*
Sennae folia FS.2.5.0038.15	Senna alexandrina Mill. (syn.: Cassia acutifolia Delile, Cassia senna L.), Cassia angustifolia Vahl., Fabaceae	Laxative*
Silybi mariani fructus FS.2.5.0035.15	Silybum marianum (L.) Gaertn., Asteraceae	Hepatoprotector*
Sorbi aucupariae fructus FS.2.5.0093.18	Sorbus aucuparia L., Rosaceae	Polyvitamin*
Tanaceti vulgaris flores FS.2.5.0031.15	Tanacetum vulgare L., Asteraceae	Herbal remedy* Antihelminthic and choloretic***

The list of plants referred in Russian Pharmacopoeia 1^{4th} edition

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Taraxaci officinalis radices FS.2.5.0086.18	Taraxacum officinale Wigg., Asteraceae	Bitterness (appetite stimulant)*
Thermopsidis lanceolatae herba FS.2.5.0096.18	Thermopsis lanceolata R. Br., Fabaceae	Expectorant*
Thymi serpylli herba FS.2.5.0047.15	Thymus serpyllum L., Lamiaceae	Expectorant*
Thymi vulgaris herba FS.2.5.0097.18	Thymus vulgaris L., Lamiaceae	Expectorant**
Tiliae flores FS.2.5.0024.15	Tilia cordata Mill., Tilia platyphyllos Scop., Tiliaceae	Diaphoretic*
Tussilaginis farfarae folia FS.2.5.0027.15	Tussilago farfara L., Asteraceae	Expectorant ***
Urticae dioicae folia FS.2.5.0019.15	Urtica dioica L., Urticaceae	Hemostatic*
Vaccinii myrtilli fructus FS.2.5.0050.15	Vaccinium myrtillus L., Ericaceae	Astringent*
Vaccinii vitis-idaeae folia FS.2.5.0063.18	Vaccinium vitis-idaea L., Ericaceae	Diuretic*
Valerianae officinalis rhizomata cum radicibus FS.2.5.0009.15	Valeriana officinalis L. s. l., Valerianaceae	Sedative*
Veratri Lobeliani rhizomata cum radicibus FS.2.5.0104.18	Veratrum lobelianum Bernh., Liliaceae	Antiparasitic*
Viburni fructus recens FS.2.5.0076.18	Viburnum opulus L., Viburnum sargentii Koehne, Caprifoliaceae	Diaphoretic, anti-inflammatory ***
Viburni opuli cortex FS.2.5.0017.15	Viburnum opulus L., Caprifoliaceae	Diuretic***
Violae herba FS.2.5.0044.15	Viola tricolor L., Viola arvensis Murr., Violaceae	Expectorant*
Zeae maydis styli cum stigmatibus FS.2.5.0079.18	Zea mays L., Poaceae	Choleretic*

The distribution of monographs for plants Russian Pharmacopoeia 1^{4th} edition





Review

Medicinal Plants of the Russian Pharmacopoeia; their history and applications



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ARTICLE INFO

Article history:

Received 22 January 2014

Received in revised form

31 March 2014

Accepted 4 April 2014

Available online 15 April 2014

Keywords:

Aralia elata

Bergenia crassifolia

Bidens tripartita

Gnaphalium uliginosum

Inonotus obliquus

Tussilago farfara

ABSTRACT

Ethnopharmacological relevance: Due to the location of Russia between West and East, Russian phytotherapy has accumulated and adopted approaches that originated in European and Asian traditional medicine. Phytotherapy is an official and separate branch of medicine in Russia; thus, herbal medicinal preparations are considered official medicaments. The aim of the present review is to summarize and critically appraise data concerning plants used in Russian medicine. This review describes the history of herbal medicine in Russia, the current situation and the pharmacological effects of specific plants in the Russian Pharmacopoeia that are not included in the European Pharmacopoeia. *Materials and methods:* Based on the State Pharmacopoeia of the USSR (11th edition), we selected plant species that have not yet been adopted in Western and Central Europe (e.g., selected for inclusion in the European Pharmacopoeia) and systematically searched the scientific literature for data using library catalogs, the online service E-library.ru, and databases such as Medline/Pubmed, Scopus, and the Web of Science regarding species, effectiveness, pharmacological effects, and safety.

Results: The Russian Federation follows the State Pharmacopoeia of the USSR (11th edition), which contains 83 individual plant monographs. Fifty-one of these plants are also found in the European Pharmacopoeia and have been well studied, but 32 plants are found only in the Pharmacopoeia of the USSR. Many articles about these medicinal plants were never translated in English, and much of the information collected by Russian scientists has never been made available to the international community. Such knowledge can be applied in future studies aimed at a safe, evidence-based use of traditional Russian medicinal plants in European and global phytopharmacotherapy as well as for the discovery of novel leads for drug development.

Journal of Ethnopharmacology

Review

Medicinal Plants from the 14th edition of the Russian Pharmacopoeia, recent updates

--Manuscript Draft--

Manuscript Number:	JETHNO-D-20-01098R2
Article Type:	Review Article
Keywords:	Arctium roots, Betula leaves, Dryopteris filix-mas, Eleutherococcus senticosus, Populus buds, Rhaponticum carthamoides, Rumex confertus, Veratrum lobelianum
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Accepted on December 8, 2020

https://www.researchgate.net/profile/Alexander_Shikov

<https://www.linkedin.com/in/alexander-shikov-00222573/>



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REVIEW ARTICLE

Medicinal Research Reviews

WILEY

Evolution of the adaptogenic concept from traditional use to medical systems: Pharmacology of stress- and aging-related diseases

- Alexander Panossian, Sweden/USA
- Thomas Efferth, Germany
- Alexander Shikov, Russia
- Olga N. Pozharitskaya, Russia
- Kenny Kuchta, Germany
- Pulok Mukherjee, India
- Subhadip Banerjee, India
- Michael Heinrich, UK
- Wanying Wu, China
- De-an Guo, China
- Hildebert Wagner, Germany



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REVIEW ARTICLE

Medicinal Research Reviews

WILEY

Evolution of the adaptogenic concept from traditional use to medical systems: Pharmacology of stress- and aging-related diseases

Adaptogens are natural compounds or plant extracts that increase adaptability, resilience, and survival of organisms to stress.

Результатов: примерно 2 130 000 (0,44 сек.)

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Адаптогены — Википедия

<https://ru.wikipedia.org> > wiki > Адаптогены ▾

Адаптогены — фармакологическая группа препаратов природного или искусственного происхождения, способных повышать неспецифическую ...

Картинки по запросу adaptogen



➔ Другие картинки по запросу "adaptogen"

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Adaptogen - Wikipedia

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adaptogen



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Adaptogens are non-toxic plants that are marketed as helping the body resist stressors of all kinds, whether physical, chemical or biological. These herbs and roots have been used for centuries in Chinese and Ayurvedic healing traditions, but they're having a renaissance today. Feb 28, 2018

time.com › Health › Diet & Nutrition

What Are Adaptogens? Healing Herbs for Stress and Fatigue ...

Adaptogen



Adaptogens or adaptogenic substances are used in herbal medicine for the claimed stabilization of physiological processes and promotion of homeostasis. [Wikipedia](#)

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Feedback

Pharmacological effects

- Stress protective
- Increase concentration, performance and endurance during fatigue
- Improves some aspects of mental health and social functioning
- Antihypoxant (resistance to high altitude sickness)
- Antioxidant
- Treatment of impotence
- Normalization of sleep
- Improving of appetite
- Improving of night vision
- Improving of quality of life
- Important in aging related disorders

Adaptogenic plants used in officinal medicine in the Russia



Аралия манчжурская

Aralia elata var. *mandshurica*
(Rupr. & Maxim.) J.Wen



Заманиха
высокая

Oplopanax elatus (Nakai) Nakai

Adaptogenic plants used in officinal medicine in the Russia



Eleutherococcus senticosus
(Rupr. & Maxim.) Maxim.



Panax ginseng C. A. Mey.

Adaptogenic plants used in officinal medicine in the Russia



Левзея
сафлоровидная

Leuzea carthamoides Willd.



Родиола розовая

Sedum roseum (L.) Scop.

Adaptogenic plants used in officinal medicine in the Russia

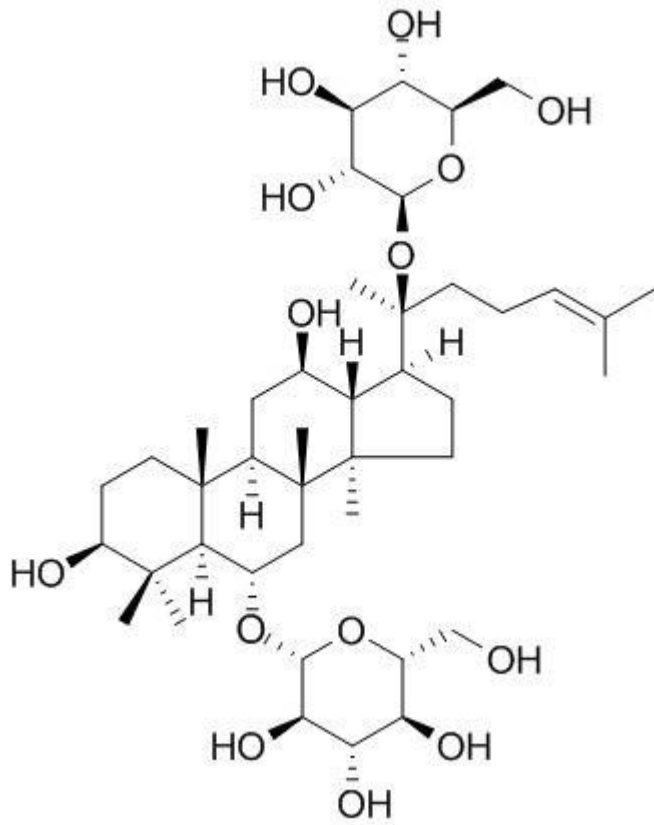


Лимонник
китайский

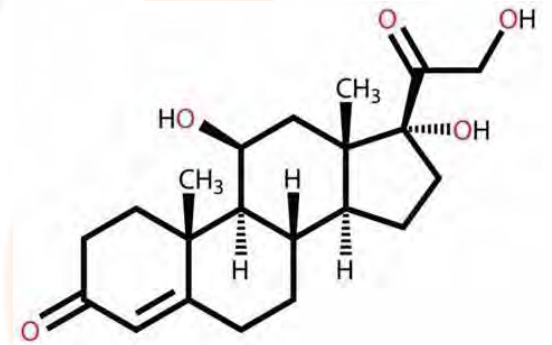
Schisandra chinensis (Turkz.) Baill.

Main active principles

I. Tetracyclic triterpenes



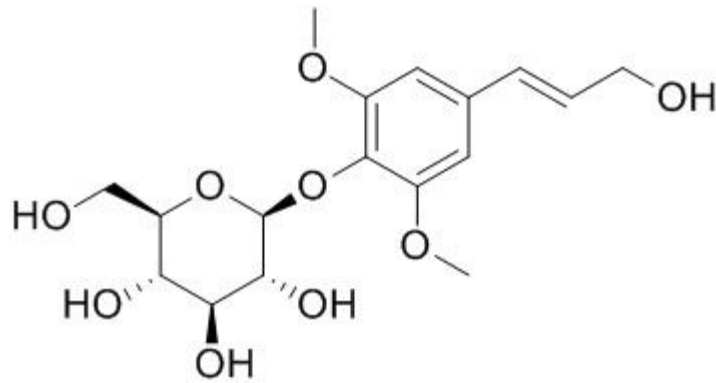
Ginsenoside Rg1



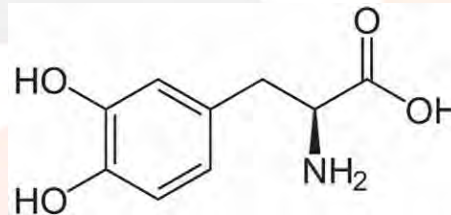
Cortisol

Main active principles

II. Phenolic compounds (phenylpropanoids, phenylethane derivatives, lignans)



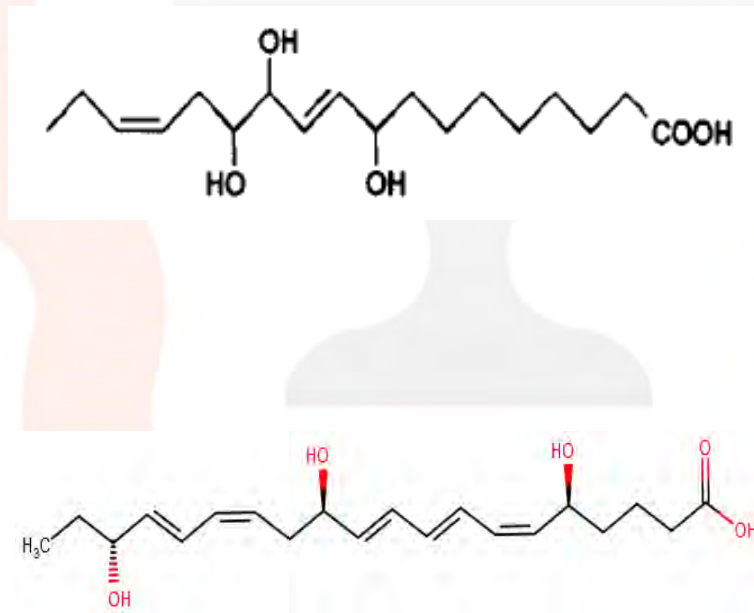
Syringin



Levodopa

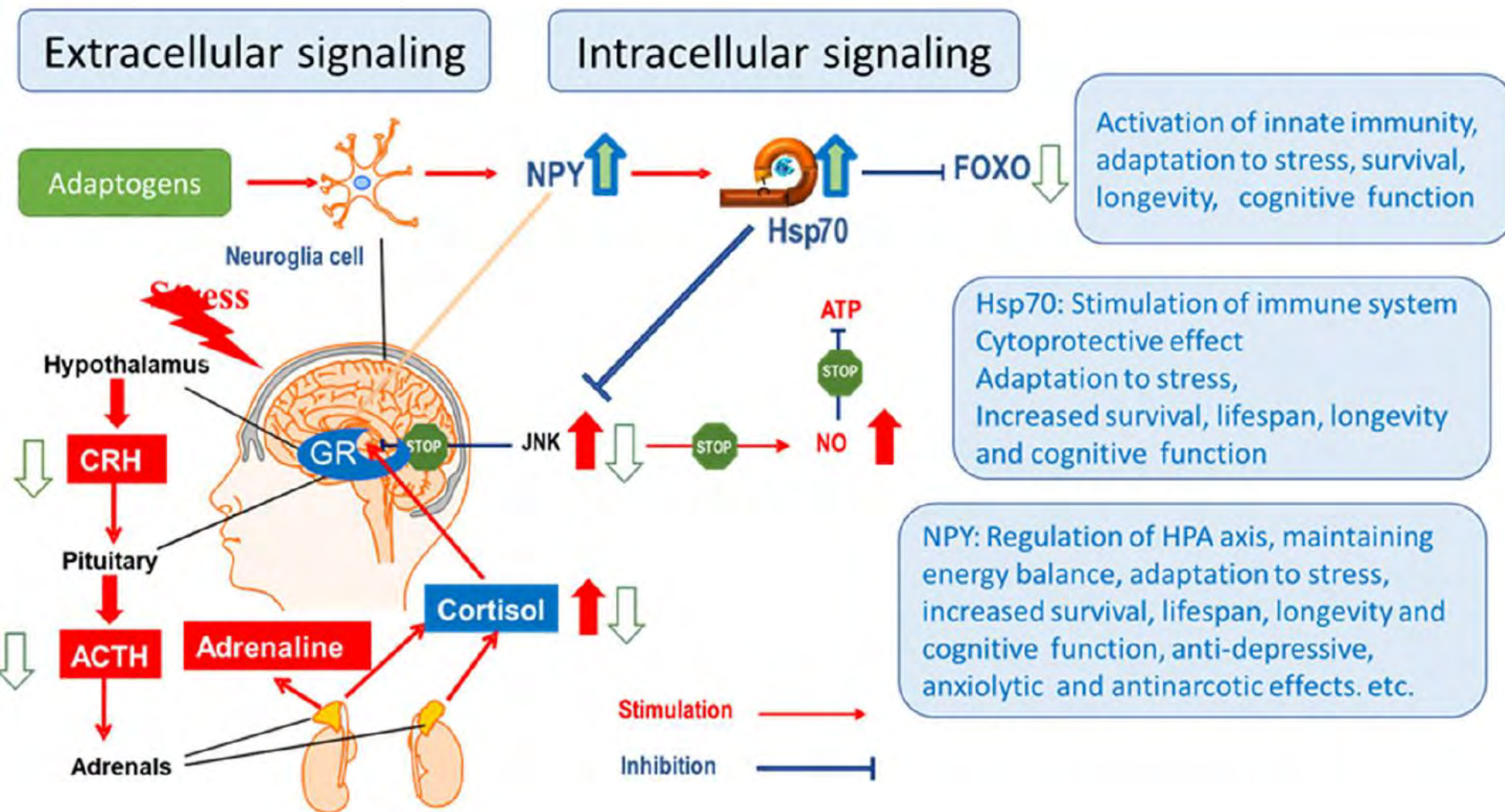
Main active principles

III. Other substances like unsaturated trihydroxy or epoxy fatty acids, aldehydes, organic acids, saponins, polyacetylene etc.



Resolvin

Mechanisms of activity of adaptogens



Conclusions

- Originally, the category of ADAPTOGENS was invented not for the purpose of enriching the herb sellers' vocabulary, but as a novel term to describe the
- NEXT GENERATIONS OF MEDICINES.
- Existing pharmacological categories, such as analgesics, antipyretics, antibiotics, sedatives, diuretics more or less assume a disease state, which is to be corrected through the drug action.

Conclusions

- The **FUTURE MEDICINES** will stop the disease before it has chance to develop.
- They will no longer be anti-this, anti-that, but something-protectants: hepatoprotectants, radioprotectants, neuroprotectants etc.
- They will **NOT ONLY PROTECT** the existing state of the body, but **WILL STRENGTHEN IT** as required by our duties at the moment.

Future information



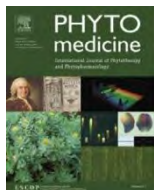
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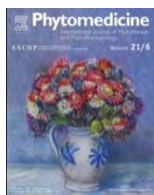
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**Ευχαριστώ
Thank you!**