Eyebright

Scientific Name(s): Euphrasia officinale L.
Common Name(s): Eyebright

Medically reviewed by Drugs.com. Last updated on Apr 22, 2024.

Clinical Overview

Use

Eyebright preparations have been used to treat a variety of conditions, specifically inflammatory eye disease; however, clinical trial data are lacking to recommend use for any indication.

Dosing

Clinical studies are lacking to provide dosing guidance. Tinctures and extracts of the herb have been used; an orally administered homeopathic product was used in 1 study evaluating effects in preventing conjunctivitis. Various homeopathic eye drops and oral formulations are available commercially.

Contraindications

Contraindications have not been identified.

Pregnancy/Lactation

Avoid use. Information regarding safety and efficacy in pregnancy and lactation is lacking.

Interactions

None well documented.

Adverse Reactions

Multiple adverse effects, including nausea and constipation, confusion, weakness, sneezing, rhinitis, cough, dyspnea, insomnia, polyuria, and diaphoresis, may occur with 10 to 60 drops of eyebright tincture. Homeopathic doses are unlikely to cause adverse reactions because of the minimal amounts ingested. Only sterile ophthalmic preparations should be used.

Toxicology

Information regarding toxicology is limited.

Scientific Family

- Orobanchaceae (formerly Scrophulariaceae) (figwort)

Botany

E. officinalis is an annual, herbaceous, semiparasitic plant found throughout Europe, Asia, and North America.Liu 2018 The plant is believed to have originated from European wild plants; however, many species are attributed to the genus Euphrasia, with E. officinalis considered a *nomen ambiguum* (Latin for "ambiguous name") in botany.Duke 2002, Khan 2010, USDA 2020

Synonyms include Euphrasia rostkoviana Hane and Euphrasia stricta J.P. Wolff ex J.F. LehmDuke 2002; however, the chemical constituents of these plants might differ.

History

Eyebright is thought to have been used for eye infections by the Greek philosopher Theophrastus (371-287 BC), sometimes known as the "father of botany," and by the Greek physician Dioscorides (AD 40-90).Bartram 1998 The plant was used in traditional African American herbal medicine and has been used in homeopathy to treat conjunctivitis and other ocular inflammations.Boyd 1984, Lans 2007, Leffler 2014

Euphrasia was used as a 14th-century cure for "all evils of the eye," and an eyebright ale was described in the Elizabethan era. It was a component of British "herbal tobacco," which was smoked for chronic bronchial conditions and colds. Other early uses include treatments for allergies, cancer, cough, conjunctivitis, earache, epilepsy, headache, hoarseness, inflammation, jaundice, ophthalmia, rhinitis, skin ailments, and sore throat.Leffler 2014

Chemistry

Eyebright primarily contains tannins (approximately 12%) and gallotannins.Barnes 2007, Duke 1992 In addition, the plant contains minerals, vitamins, fats, and volatile oils (approximately 0.2%). Gas chromatography-mass spectrometry analysis of the volatile compounds revealed more than 70 constituents, including n-hexadecanoic acid as the main constituent, followed by thymol, myristic acid, linalool, and anethole.Novy 2015

Iridoid glycosides (eg, aucubin [0.05%], catalpol, euphroside, ixoroside) and phenylethanoid glycosides (eg, dehydrodiconiferyl alcohol 4-beta-D-glucoside, acteoside, eukovoside) are also prominent in eyebright extracts. Various phenolic compounds and flavonoids (eg, apigenin) have also been identified.Barnes 2007, Blazics 2011, Duke 1992, Petrichenko 2005, Shuya 2004, Tóth 2014

Uses and Pharmacology

Antihyperglycemic activity

Animal data

In a study of rats, an aqueous extract of Euphrasia leaves demonstrated hypoglycemic effects.Porchezhian 2000

Antimicrobial activity

In vitro data

Antimicrobial activity of eyebright essential oil (E. rostkoviana) against organisms associated with eye infections was tested using 96-well microtiter plates. The essential oil showed antimicrobial effects against Enterococcus faecalis, Escherichia coli, Klebsiella pneumoniae, Staphylococcus aureus, Staphylococcus epidermidis, and Candida albicans. The best activity was observed against gram-positive bacteria, for which the extract had a minimum inhibitory concentration of 512 mcg/mL.Novy 2015

Antioxidant activity

Experimental data

Antioxidant activity of the glycoside acteoside has been demonstrated in laboratory experiments of E. rostkoviana.Blazics 2011

Ophthalmic anti-inflammatory/Antioxidant effects

Animal and in vitro data

Anti-inflammatory effects have been demonstrated in rodents.Petrichenko 2005 The leaves of the plant have been traditionally used to treat eye conditions in chickens in Trinidad and Tobago.Lans 2007

Anti-inflammatory activity of E. officinalis L. preparations has been shown using human corneal cells, with decreased cytokine expression observed.Paduch 2014) Protective effects of E. officinalis (95% ethanol extract) against ultraviolet B (UVB)–irradiated photoaging in normal human dermal fibroblasts were demonstrated, possibly due to reduced oxidative stress, proinflammatory activity, and cell apoptosis.Liu 2018

Clinical data

The use of homeopathic-strength eye drops has been evaluated in an open-label study of patients with noninfective conjunctivitis (N=65). More than 95% of patients experienced complete or clear improvement of symptoms within 3 to 17 days of starting Euphrasia drops, with optimal results occurring with administration of 1 drop 3 times per day. No serious adverse events were observed.Bielory 2003, Stoss 2000 Another large, double-blind study in students during a viral conjunctivitis epidemic (N=994) examined use of orally administered homeopathic Euphrasia 30C (C=centisimal dilution [1 part in 100]) and found no effect in preventing conjunctivitis compared with placebo.Mokkapatti 1992

In a double-blind, randomized, controlled trial, use of Euphrasia eye drops was evaluated in preterm and term neonates with neonatal obliterated nasolacrimal duct/dacryocystitis (N=84). Patients randomized to the Euphrasia group (n=42) received Euphrasia eye drops in single doses of 0.4 mL instilled 4 times a day, while the control group (n=42) received single 0.4 mL doses of sodium chloride 0.9% instilled 4 times a day, for a duration of 96 hours. Results showed no difference regarding treatment success, which was achieved in 34 (81%) patients in the Euphrasia group versus 30 (71.4%) in the control group (*P*=0.31).Gerstenberg 2019

Dosing

Clinical studies are lacking to provide dosing guidance. Tinctures and extracts of the herb have been usedDuke 2002; an orally administered homeopathic product was used in 1 study evaluating effects in preventing conjunctivitis.Mokkapatti 1992 Various homeopathic eye drops and oral formulations are available commercially.

Standard herbal references list 2 to 4 g of the herb as an infusion, 2 to 4 mL as a liquid herb extract (1:1 in 25% alcohol solution), and 2 to 6 mL as an herb tincture (1:5 in 45% alcohol), all for use 3 times a day.Barnes 2007, Duke 2002

Pregnancy / Lactation

Avoid use. Information regarding safety and efficacy in pregnancy and lactation is lacking.

Interactions

None well documented.

Adverse Reactions

Multiple adverse effects, including nausea and constipation, confusion, weakness, sneezing, rhinitis, cough, dyspnea, insomnia, polyuria, and diaphoresis, may occur with 10 to 60 drops of eyebright tincture.Duke 2002 Homeopathic doses are unlikely to cause adverse reactions because of the minimal amounts ingested, and none were reported in a large study evaluating use of Euphrasia "pills" for prevention of conjunctivitis in students (N=994).Mokkapatti 1992 Only sterile ophthalmic preparations should be used.Duke 2002

Related/similar drugs

Toxicology

Information regarding toxicology is limited. In acute toxicity tests in mice, toxicity was observed at eyebright doses of

approximately 4,500 mg/kg,Petrichenko 2005 whereas in rats, no toxicity was observed with eyebright aqueous extract dosages of up to 6 g/kg.Porchezhian 2000

Index Terms

- *Euphrasia rostkoviana* Hane
- *Euphrasia stricta* J.P. Wolff ex J.F. Lehm

References

Disclaimer

This information relates to an herbal, vitamin, mineral or other dietary supplement. This product has not been reviewed by the FDA to determine whether it is safe or effective and is not subject to the quality standards and safety information collection standards that are applicable to most prescription drugs. This information should not be used to decide whether or not to take this product. This information does not endorse this product as safe, effective, or approved for treating any patient or health condition. This is only a brief summary of general information about this product. It does NOT include all information about the possible uses, directions, warnings, precautions, interactions, adverse effects, or risks that may apply to this product. This information is not specific medical advice and does not replace information you receive from your health care provider. You should talk with your health care provider for complete information about the risks and benefits of using this product.

This product may adversely interact with certain health and medical conditions, other prescription and over-the-counter drugs, foods, or other dietary supplements. This product may be unsafe when used before surgery or other medical procedures. It is important to fully inform your doctor about the herbal, vitamins, mineral or any other supplements you are taking before any kind of surgery or medical procedure. With the exception of certain products that are generally recognized as safe in normal quantities, including use of folic acid and prenatal vitamins during pregnancy, this product has not been sufficiently studied to determine whether it is safe to use during pregnancy or nursing or by persons younger than 2 years of age.

More about eyebright

- Compare alternatives
- Reviews (2)
- Drug class: herbal products

Related treatment guides

- Eye Redness
- Cough
- Eye Redness/Itching
- Herbal Supplementation

Barnes J, Anderson LA, Phillipson D. *Herbal Medicines*. 3rd ed. Pharmaceutical Press; 2007:256-257.

Bartram T. *Bartram's Encylcopedia of Herbal Medicine*. Constable & Robinson; 1998.
Bielory L, Heimall J. Review of complementary and alternative medicine in treatment of ocular allergies. *Curr Opin Allergy Clin Immunol*. 2003;3(5):395-399.14501441
Blazics B, Alberti A, Beni S, Kursinszki L, Tolgyesi L, Kery A. Identification and LC-MS-MS determination of acteoside, the main antioxidant compound of *Euphrasia rostkoviana*, using the isolated target analyte as external standard. *J Chromatogr Sci*. 2011;49(3):203-208.
Boyd EL, Shimp LA, Hackney MJ. *Home Remedies and the Black Elderly: A Reference Manual for Health Care Providers*. Institute of Gerontology and College of Pharmacy, University of Michigan; 1984.
Duke J. *Handbook of Biologically Active Phytochemicals and Their Activities*. CRC Press; 1992.
Duke J, Bogenschutz-Godwin M, duCellier J, Duke P. *Handbook of Medicinal Herbs*. 2nd ed. CRC Press; 2002.
Euphrasia officinalis L. USDA, NRCS. 2020. The PLANTS Database (http://plants.usda.gov, 23 March 2020). National Plant Data Team, Greensboro, NC 27401-4901 USA.
Gerstenberg G, Meier D, Stoffel L, Kohler T, Mitter V, Nelle M, Wolf U. *Euphrasia* eye drops to treat neonatal obliterated nasolacrimal duct/dacryocystitis: a double-blind randomized controlled trial. *Adv Int Mede*. 2019;6(1):S50.
Khan IA, Abourashed EA. *Leung's Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics*. 3rd ed. John Wiley & Sons Inc; 2010.
Lans C, Georges K, Brown G. Non-experimental validation of ethnoveterinary plants and indigenous knowledge used for backyard pigs and chickens in Trinidad and Tobago. *Trop Anim Health Prod*. 2007;39(5):375-385.17944308
Leffler CT, Schwartz SG, Davenport B, Randolph J, Busscher J, Hadi T. Enduring influence of elizabethan ophthalmic texts of the 1580s: bailey, grassus, and guillemeau. *Open Ophthalmol J*. 2014;8:12-18.24959303
Liu Y, Hwang E, Ngo HTT, Perumalsamy H, Kim YJ, Li L, Yi TH. Protective effects of *Euphrasia officinalis* extract against ultraviolet b-induced photoaging in normal human dermal fibroblasts. *Int J Mol Sci.* 2018;19(11).3327-3341.30366440
Mokkapatti R. An experimental double-blind study to evaluate the use of *Euphrasia* in preventing conjunctivitis. *Br Homeopath J*. 1992;81(1):22-24.
Novy P, Davidova H, Serrano-Rojero CS, Rondevaldova J, Pulkrabek J, Kokoska L. Composition and antimicrobial activity of *Euphrasia rostkoviana* hayne essential oil. *Evid Based Complement Alternat Med*. 2015;2015:734101.26000025
Paduch R, Woźniak A, Niedziela P, Rejdak R. Assessment of eyebright (*Euphrasia officinalis* L.) extract activity in relation to human corneal cells using in vitro tests. *Balkan Med J*. 2014;31(1):29-36.25207164
Petrichenko VM, Sukhinina TV, Shramm NI, Babiyan LK, Yushkov VV. The technology and pharmacological properties of dry extract from *Euphrasia brevipila* grass. *Pharm Chem J*. 2005;39(3):145-148.
Porchezhian E, Ansari SH, Shreedharan NK. Antihyperglycemic activity of *Euphrasia officinale* leaves. *Fitoterapia*. 2000;71(5):522-526.11449500
Shuya C, Shengda Q, Xingguo C, Zhide H. Identification and determination of effective components in *Euphrasia regelii* by capillary zone electrophoresis. *Biomed Chromatogr*. 2004;18(10):857-861.15386569
Stoss M, Michels C, Peter E, Beutke R, Gorter RW. Prospective cohort trial of *Euphrasia* single-dose eye drops in conjunctivitis. *J Altern Complement Med*. 2000;6(6):499-508.11152054
Tóth G, Sólyomváry A, Boldizsár I, Noszál B. Characterization of enzyme-catalysed endogenous β-hydroxylation of phenylethanoid glycosides in *Euphrasia rostkoviana* Hayne at the molecular level. *Process Biochemistry*. 2014;49(9):1533-1537.

Further information

Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.

DRUG STATUS

Availability
Unknown

User Reviews & Ratings

Review this drug

Subscribe to our newsletter for the latest medication news, new drug approvals and FDA alerts.

Drugs.com provides accurate and independent information on more than 24,000 prescription drugs, over-the-counter medicines and natural products. This material is provided for educational purposes only and is not intended for medical advice, diagnosis or treatment. Data sources include Micromedex (updated 7 Apr 2025), Cerner Multum™ (updated 13 Apr 2025), ASHP (updated 10 Apr 2025) and others.