



100% Natural Ingredient Clinically- Proven Menopause Support

Major Global Approvals

- ✓ US FDA New Dietary Ingredient Notification
- ✓ Canada HC Natural Health Product License
- ✓ EU EC Novel Food Ingredient Market Authorization
- ✓ Korea MFDS Health Functional Food Ingredient Approval



EstroG-100[®] is a proprietary blend of three herbal ingredients used in traditional Korean medicine. Extensive research, including five clinical trials in over 300 women, has shown it significantly alleviates menopausal symptoms, supports a healthy stress response, enhances bone and joint health, and promotes restful sleep, all without estrogen receptor binding activity.

Introduction

Overview



A



B



C

Raw materials of
EstroG-100®

(A) *Cynanchum wilfordii*

(B) *Phlomis umbrosa*

(C) *Angelica gigas*

EstroG-100® is a patented, proprietary herbal blend clinically demonstrated to improve menopause symptoms. EstroG-100® is a blend of three herbal extracts - *Cynanchum wilfordii*, *Phlomis umbrosa*, and *Angelica gigas* - rooted in traditional Korean medicine. Extensive research, including *in vitro*, *in vivo*, and clinical trials, confirms its safety and efficacy. In five human **clinical trials with over 300 participants, EstroG-100® significantly alleviated menopausal symptoms** such as hot flashes, sleep disturbances, nervousness, melancholia, dizziness, fatigue, paresthesia, joint discomfort, formication, and vaginal dryness.^{1 2 3 4 5}

Additionally, animal studies indicate it supports a healthy inflammatory and stress response without exhibiting estrogen receptor binding activity.^{6 7 8 9}

Menopause, the natural cessation of menstruation, leads to hormonal changes that can cause a range of physical and emotional discomforts. This has driven growing interest in natural options for symptom relief, such as botanical supplements. EstroG-100® was developed through a rigorous screening of over 70 herbs, emerging as a safe and effective non-hormonal solution.

The botanicals used in the formula have been used for centuries in traditional medicine to support women's health. These herbs have a long history of safe use, with over 390 years of documented history dating back to publication of the ancient medical book the Dong-eui-bo-gam. **Recognized as non-toxic by Korea's Ministry of Food and Drug Safety**, EstroG-100® provides a clinically-backed, natural alternative to conventional menopause management.

Human Clinical Trials Overview

Five human clinical trials have been conducted on EstroG-100®, involving over **300 pre-, peri-, and postmenopausal women**. These studies include **randomized, double-blind, placebo-controlled trials** and span diverse populations across the U.S., South Korea, India, and the Middle East. Collectively, they provide strong clinical evidence supporting **EstroG-100®'s effectiveness in alleviating menopausal symptoms**.

STUDY	A	B	C	D	E
Location	USA	Republic of Korea	Republic of Korea	India	Iran
Publication Journal	Phytotherapy Research (2012) ¹	Journal of Reproductive Medicine, Gynecology & Obstetrics (2022) ²	Journal of Korea Society of Menopause (2005) ³	Journal of Mid-life Health (2023) ⁴	Explore (2025) ⁵
Period	12 weeks	12 weeks	12 weeks Safety: 52 weeks	12 weeks	12 weeks
Dosage	514 mg/day of EstroG-100®				
Participants (Placebo/Test)	61 (29/32)	96 (48/48)	42 (19/23)	58 (-/58)	70 (35/35)
Age Range (Average)	42 - 70 (53)	40 - 70 (54)	46 - 66 (54)	40 - 70 (-)	- (51)
Efficacy	Improvement in 10 menopausal symptoms of KMI	Improvement in 9 menopausal symptoms of KMI	Improvement of: Climacteric symptoms by 5X, femoral BMD, serum osteocalcin	Improvement of MRS-11 and MS-TSQ	Improvement of Hot flash severity & frequency
Safety	<ul style="list-style-type: none"> • No serious adverse events • No significant statistical difference compared to the baseline and between the two groups on weight, BMI, serum estrogen (E2) and follicular stimulating hormone (FSH) 				

Hot Flashes & Night Sweats

Clinical trials of EstroG-100® have consistently demonstrated a **significant reduction in the frequency and severity of hot flashes**. Human Clinical Study A utilized the modified Kupperman Menopause Index (KMI) questionnaire, an internationally recognized and well-documented research tool, to measure the severity of 12 common menopausal symptoms (Figure 1). The study showed notable improvements in hot flashes at weeks 6 and 12, as measured by the KMI. Furthermore, a study specifically focused on hot flashes in postmenopausal Iranian women demonstrated a marked decrease in hot flash frequency within 3, 6 and 12 weeks of supplementation (Study E).

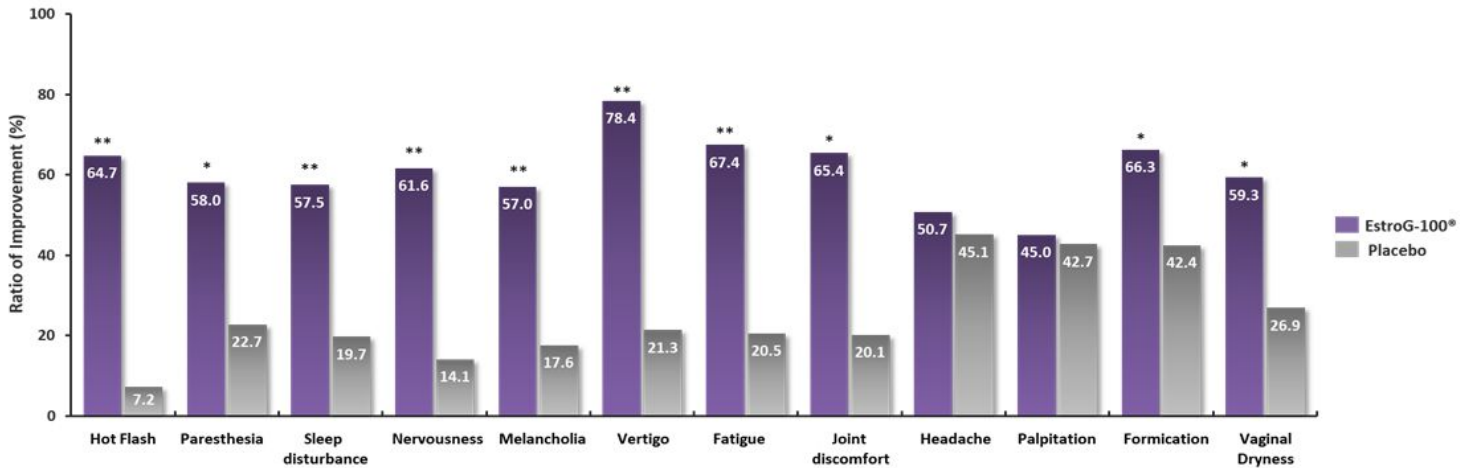


Figure 1. Changes in scores for individual symptoms following administration of 514 mg/day of EstroG-100® for 12 weeks. (*p<0.05; **p<0.01 compared between groups by t-test).

Fatigue & Sleep Disturbances

EstroG-100® has shown **substantial benefits in improving energy levels and sleep quality**. Study A reported a significant improvement in fatigue and sleep disturbances by weeks 6 and 12. Study B also found a reduction in fatigue compared to the placebo group. Additionally, Study D, conducted in India, showed significant improvements in quality of sleep, with over 96% of participants expressing satisfaction with the treatment.

Vaginal Dryness & Mood Balance

Vaginal dryness and mood-related symptoms, including nervousness and melancholia, improved significantly in multiple studies. Study A demonstrated **statistically significant improvements in vaginal dryness** over placebo at 6 and 12 weeks, alongside reductions in nervousness and melancholia. Study B reinforced these findings, reporting significant improvements in vaginal dryness and mood-related symptoms. Furthermore, Study D confirmed significant improvements in mood stability and overall well-being, enhancing the quality of life for postmenopausal women.

Bone Health

EstroG-100® has demonstrated benefits for bone health by supporting bone metabolism and density. Study C, a one-year randomized trial, found **significant improvements in bone metabolism markers and femoral bone density** after 12 months of EstroG-100® supplementation (Figure 2). Notably, EstroG-100® did not contribute to weight gain or increased serum triglyceride levels, further emphasizing its safety and metabolic benefits.

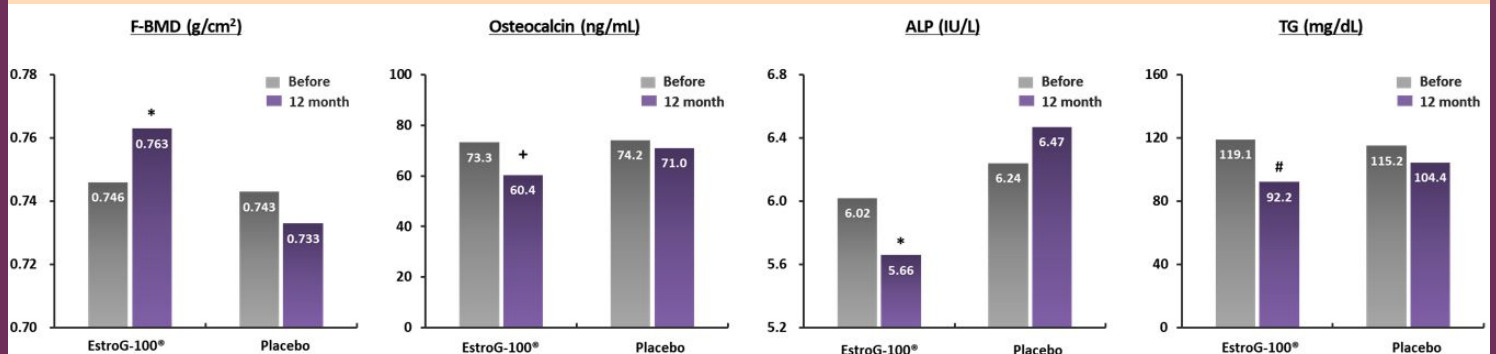


Figure 2. Changes in Femoral bone mineral density (FBMD), osteocalcin, alkaline phosphatase (ALP) and triglyceride (TG) in serum. *: p < 0.05, #: p = 0.06, +: p = 0.08 compared to placebo by Mann-Whitney test.



Safety Profile

No Adverse Effects

The human clinical trials consistently reported that EstroG-100® was well-tolerated, with **no significant adverse events** observed. Study A and Study B confirmed that participants experienced no serious side effects, with **no changes in hormone levels, endometrial thickness, or body mass index.**

Study C further supported its safety profile, showing no negative metabolic effects even after one year of use. Study D, conducted in India, reported that all measured **blood parameters, including kidney function and blood sugar levels, remained within normal ranges.**

These findings confirm that EstroG-100® is a **safe non-hormonal supplement for managing menopausal symptoms.**

Mode of Action Studies

EstroG-100® for Stress Support

A study examined EstroG-100®'s effects on physical exertion, mobility, and neurotransmitter levels in a chronic stress model using mice. Researchers measured serotonin (5-HT), dopamine (DA), and norepinephrine (NE) levels in blood and brain tissue after exposure to restraint-induced stress, followed by a forced swimming test (FST) to assess stress response.⁷ The study model is commonly used in behavioral research and does not cause pain to the animal but mimics mental stress in humans.¹⁰

Results. Improved Mobility & Neurotransmitter Levels

- **Neurotransmitter Levels:** Stressed mice showed reduced DA, 5-HT, and NE in the hippocampus and prefrontal cortex. EstroG-100® prevented these declines, with significantly higher DA and 5-HT levels compared to the control group.
- **Forced Swimming Test:** Mice receiving EstroG-100® (300 mg/kg) had longer swimming and climbing durations and reduced immobility, indicating improved resilience and mobility under stress (Figure 3).

EstroG-100® Supports a Healthy Inflammatory Response

This study used two animal models - the carrageenan-induced model and the monosodium iodoacetate (MIA)-induced model - to evaluate EstroG-100®'s role in supporting a healthy inflammatory response.^{11 12}

Results. Reduced Swelling

- In the carrageenan-induced model, EstroG-100® significantly reduced paw swelling at doses above 100 mg/kg, with the greatest reduction observed at 200 mg/kg (54.3%).

These results indicate that EstroG-100® may help maintain a healthy inflammatory response and support overall physical well-being.⁸

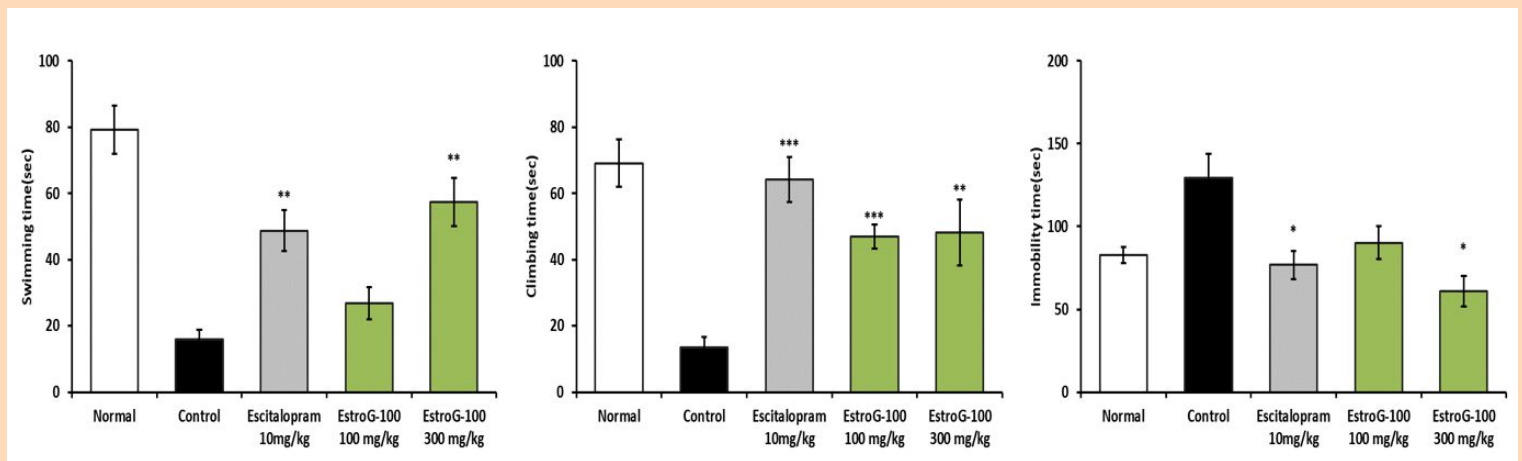


Figure 3. The effects of EstroG-100® on the FST in chronic restraint-stressed mice (n=5). The graphs show the duration (seconds) of the swimming (A), climbing (B) and immobility (C) in FST. Data are expressed as the mean ± SEM. *p<0.05, **p<0.01, *** p<0.001, significantly different from the control group.

Mode of Action Studies

Evaluation of Estrogenic Activity of EstroG-100®

Interest in plant-derived ingredients as natural options for supporting women's health has grown in recent years. However, some herbal preparations have been reported to increase the risk of estrogen-induced health conditions. To assess its safety, EstroG-100® was evaluated for estrogenic activity using a human estrogen receptor α (hER α) cell model, an MCF-7 breast cancer cell proliferation assay, and a uterotrophic assay in ovariectomized rats.⁹

No Estrogenic Activity

An STTA assay is used to evaluate the ability of chemicals to function as estrogen receptor alpha (ER α) ligands (a molecule that binds to another).¹³ EstroG-100® showed no estrogenic activity at any tested concentration, while estradiol (E2) and genistein, well-known phytoestrogens used as reference chemicals, showed significant estrogenic activity in a dose-dependent manner (Figure 4).

Effect of EstroG-100® on growth of MCF-7 cells

The MCF-7 cell line is known to be a hormone-dependent breast cancer cell line that expresses both ER α and ER β . The study found that EstroG-100® did not promote the growth of hormone-sensitive breast cancer cells, unlike the positive control E2 (Figure 4).

In vivo effect of EstroG-100® in Uterotrophic Assay

In this study, ovariectomized (OVX) Sprague-Dawley female rats, a common model for mimicking menopausal symptoms by removing the ovaries, were used. In OVX rats, EstroG-100® did not increase uterine weight, whereas E2 caused significant weight increase compared to the control (saline) group (Figure 4).

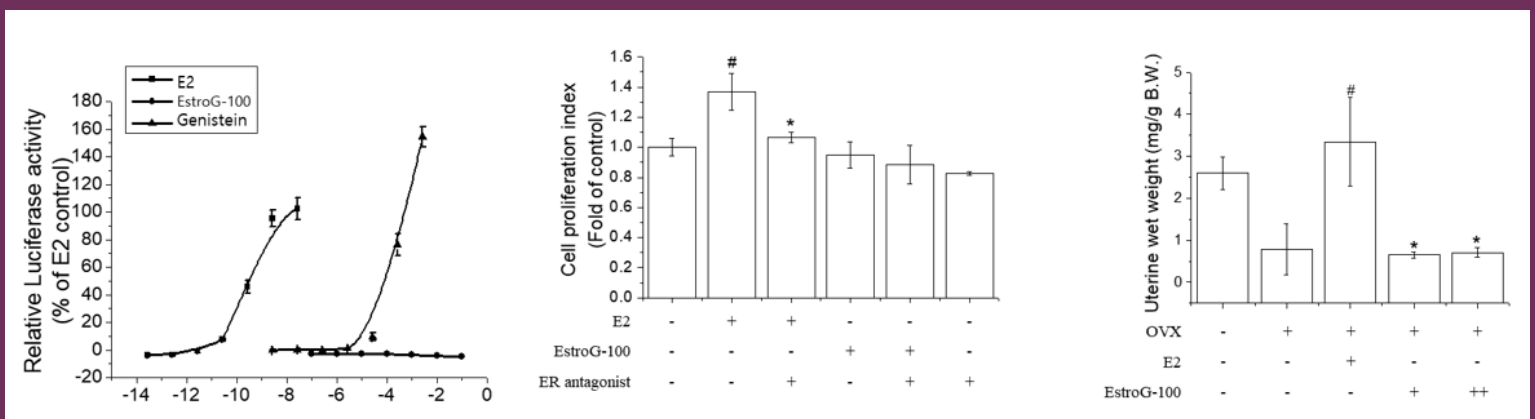


Figure 4. EstroG-100® did not exhibit estrogenic activity in both *in vitro* and *in vivo* studies. Data are expressed as the mean \pm SD. # P<0.05 vs. control and * P <0.05 vs. E2.

Regulatory Overview

COUNTRY	AUTHORITY	REGULATORY STATUS	APPROVED CLAIM
United States	Food and Drug Administration	New Dietary Ingredient Notification #668	N/A
Canada	Health Canada	Natural Health Product Natural Product No. 80026169 & 80088879	For use to help relieve menopausal symptoms such as hot flashes, night sweats, paresthesia, joint discomfort, nervousness, sleep disturbances, vertigo, fatigue, and vaginal dryness, and to support healthy mood balance during menopause.
European Union	European Food Safety Authority/ European Commission	Novel Food Ingredient Market Authorization (EU) 2018/469	N/A
Republic of Korea	Ministry of Food and Drug Safety	Health Functional Food Ingredient Approval No.: 2010-20	May help menopausal women's health

EstroG-100®

Key Features & Advantages



Purely Hot
Water Extracted



Variety of
Serving Forms



Free-flowing
Fine Powder



Shelf-stable
3 Years



Heat-Stable



Water-Soluble



No Additives
or Excipients



Serving Size
514 mg/day

Conclusion

EstroG-100® is a scientifically-backed, natural alternative for managing menopause symptoms effectively and safely. Its proven benefits and excellent safety profile make it an ideal ingredient for women seeking relief without hormonal therapy.

NATURALENDO TECH

INNOVATION FOR BETTER QUALITY OF LIFE

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** These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.*

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