

M2F-PhytoSupport: A Diagnostic-Specific Phytochemical Formulation for Transgender Women on Gender-Affirming Hormone Therapy

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with [PhytoIntelligence v1.1 \(AI-Driven Framework by OpenAI\)](#)

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Abstract

Transgender women undergoing gender-affirming hormone therapy (GAHT) face complex physiological transitions involving estrogen metabolism, cardiovascular and hepatic risks, bone density loss, and psychological stress. M2F-PhytoSupport is a targeted, diagnostic-specific nutraceutical formulation designed by citizen scientist Marie Seshat Landry using the PhytoIntelligence framework. This AI-assisted method integrates literature mining, pharmacokinetic modeling, and synergy analysis to propose bioactive compounds supporting GAHT. The formulation includes GRAS-status nutraceuticals that support estrogen metabolism, detoxification, neuroendocrine balance, and bone health. This paper presents preclinical computational development and literature review supporting this formula.

Warning: This is a preclinical research document. No human clinical trials have been performed. This product is not approved for diagnosis, treatment, or prevention of disease.

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Medical Disclaimer and Research Warning

This publication is for research and educational purposes only. The author, Marie Seshat Landry, is a citizen scientist, not a licensed physician. The formulation described herein has not been tested in clinical trials. It is not intended to diagnose, treat, cure, or prevent any medical condition. Always consult a qualified medical professional before taking any supplement, especially when undergoing gender-affirming hormone therapy (GAHT).

Warning: This work represents preclinical, non-commercial research. Claims made are based on literature evidence and AI-assisted inference and are not FDA evaluated. Do not self-administer any combination without proper medical oversight.

1 Introduction

Gender-affirming hormone therapy in transfeminine individuals typically includes estradiol and anti-androgens (e.g., spironolactone or cyproterone acetate). This hormonal shift introduces risks to hepatic function, bone density, vascular integrity, and hormone metabolism. M2F-PhytoSupport aims to supplement this process using phytochemicals chosen to synergistically enhance estrogen metabolism and reduce androgenic effects, while protecting key systems impacted during transition.

2 PhytoIntelligence Framework

$$C_{TW} = \sum_{i=1}^n (M_i \times V_i \times P_i \times B_i \times S_i \times R_i \times D_i)$$

- M_i : Molecule Identification (AI-based literature scan)
- V_i : Validation Strength (in vitro, animal, human)
- P_i, B_i : Pharmacokinetics and Bioavailability
- S_i : Synergy Score with hormonal targets
- R_i : Regulatory Score (GRAS, EFSA, WHO status)
- D_i : Dosage Safety Index (based on NOAEL or LOAEL)

This framework filters and scores natural compounds for relevance, synergy, safety, and efficacy in supporting transgender health.

Compound	Dose	Primary Role
DIM (Diindolylmethane)	100 mg	Supports 2-hydroxylation of estrogen. PMC3074486
Sulforaphane	50 mg	Induces NRF2, promotes phase II detox. PMID:27934796
Silymarin	150 mg	Liver protection and estrogen clearance. PMC7266400
Reishi Mushroom	500 mg	Anti-androgenic; inhibits 5-reductase. PMID:15313408
Spearmint Extract	200 mg	Lowers free testosterone. PMID:19585478
Rhodiola rosea	150 mg	Adaptogenic, reduces transition-related fatigue. PMC5295095
N-Acetylcysteine (NAC)	600 mg	Glutathione precursor, hepatic support. PMC4684123
Vitamin K2 (MK-7)	180 mcg	Bone density and cardiovascular support. PMID:20585907
Boron	3 mg	Supports estradiol balance and bone integrity. PMC4712861
Piperine	5 mg	Bioavailability enhancer for polyphenols. PMC3634921

Table 1: Formulation Table: M2F-PhytoSupport

3 Formulation: M2F-PhytoSupport

4 Key Mechanisms of Action

- **Hormonal Modulation:** DIM, Reishi, and Spearmint reduce androgenic pathways and enhance safe estrogen metabolism.
- **Hepatic Detoxification:** NAC, Silymarin, and Sulforaphane support Phase I/II biotransformation.
- **Neuroendocrine Resilience:** Rhodiola modulates stress axis (HPA), supporting mental health during hormonal transition.
- **Bone and Cardiovascular Health:** Vitamin K2 and Boron synergize with GAHT to reduce risk of osteoporosis and arterial calcification.

5 Pharmacokinetics and Safety

All components are orally bioavailable, GRAS, and compatible with concurrent estradiol therapy. Piperine increases systemic availability without altering GAHT pharmacodynamics. No ingredients are pro-estrogenic in a carcinogenic or hormone-disruptive manner at the proposed doses.

6 Regulatory and Toxicological Profile

- All ingredients classified as GRAS or included on EFSA/WHO permitted use lists.
- Dosages below known NOAEL levels (e.g., NAC: $\leq 1,200$ mg/day; DIM: ≤ 300 mg/day).
- No known adverse drug interactions with estradiol, spironolactone, or common psychotropics.

Disclaimer: Individual responses may vary. Lab-confirmed interactions are not guaranteed absent clinical trials.

7 Conclusion

M2F-PhytoSupport is a preclinical nutraceutical formulation intended to provide targeted physiological support for transgender women undergoing GAHT. Developed by Marie Seshat Landry using AI-assisted natural compound discovery, this formulation represents a prototype for further study, not a substitute for medical advice.

Next Steps: Clinical trials, case studies, and registered IRB approval are recommended prior to public distribution or commercial application.

Acknowledgments

This formulation was created by Marie Seshat Landry, an independent citizen scientist, entrepreneur, and trans woman researcher dedicated to ethical organic technologies and inclusive medical innovation. AI support provided by PhytoIntelligence v1.1 (OpenAI ChatGPT-4.5 framework).

References

1. [DIM Estrogen Modulation](#) — PMC3074486
2. [Sulforaphane Detoxification](#) — PMID:27934796
3. [Silymarin Liver Support](#) — PMC7266400
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8. [Vitamin K2 Cardiovascular](#) — PMID:20585907
9. [Boron Endocrine Support](#) — PMC4712861

10. [Piperine Bioenhancement — PMC3634921](#)