

# Formulation Booklet Feiolix

Feiolix®

SCIENCE PERFECTED IN MARKET

  
Anagenix.

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# Executive Summary

To help customers with formulation ideas on which health claims can potentially be made,

Anagenix has researched various ingredients which may be used in combination with Feiolix® for Weight management, menopause, and synbiotic applications .

The ingredients investigated (see table below) have approved health claims relating to digestive health in some markets, mainly the EU and US.

Ingredient	Claims	Rational for Formulation with Feiolix
Berberine	Provides immune function support and helps maintain healthy respiratory tract mucus membranes; Promotes healthy blood sugar metabolism; Supports healthy cholesterol levels	Works synergistically to provide a full support for metabolic markers
Cinnamon	May help lower blood glucose levels and improve insulin sensitivity in people with type 2 diabetes	Both ingredients help to manage blood glucose levels through different pathways
Chromium	May help lower blood glucose levels and improve insulin sensitivity	Feiolix helps to improve satiety where chromium helps reduce appetite
Resveratrol	May decreases free radical damage to cells	Resveratrol helps prevent insulin resistance as it is a DPPH4 inhibitor which breaks down GLP-1. By formulating with Resveratrol you can enhance the effect of GLP-1 and slow down degradation
Green Tea Extract	May promote weight loss when combined with a reduced-calorie diet and regular physical activity	Feiolix helps to promote insulin secretion and glucose absorption while green tea extract contains catechins that increase fat oxidation and energy expenditure
Soy Isoflavones	May help reduce the frequency and severity of menopausal hot flashes	Together both address the hormonal and metabolic aspects of menopause
Maca Root	May help alleviate menopausal symptoms and support hormonal balance in women	Together both address the hormonal and metabolic aspects of menopause
<i>Bifidobacterium lactis</i> B420	May help support digestive health and immune function when consumed regularly	<i>B. lactis</i> B420 is proven to help weight loss and Feiolix has been shown to increase growth of <i>B. lactis</i>
<i>Lactobacillus rhamnosus</i> GG	May help support digestive health and immune function when consumed regularly	<i>L. rhamnosus</i> GG helps with digestion and Feiolix has been shown to increase growth of <i>L. rhamnosus</i>

# Weight Management

## Ingredient: Berberine

### Approved Health Claims:

"Provides immune function support and helps maintain healthy respiratory tract mucus membranes; Promotes healthy blood sugar metabolism;; Supports healthy cholesterol levels."

### Rational for Formulation with Feiolix:

Berberine and Feiolix both work through different but synergistic pathways to support metabolic health. They complement each other through:

- Enhanced Glucose Regulation: Berberine improves insulin sensitivity, while Feiolix enhances insulin secretion.
- Complementary Anti-Inflammatory Action: Both ingredients have anti-inflammatory properties, potentially addressing inflammation-related weight gain from different angles.
- Appetite and Metabolism Regulation: Berberine's effect on AMPK combined with Feiolix's potential appetite regulation could lead to better energy balance and weight management.
- Lipid Management: Berberine's ability to reduce lipid levels could be complemented by Feiolix's effects on metabolic health.
- Gut Health Support: Both supplements may positively influence gut microbiota, which plays a role in weight management.

### Mechanism of Action:

#### Berberine

- Works as a AMPK agonist which increases energy production and therefore increases glucose and lipid metabolism.
- Through the AMPK activation it has an anti-inflammatory effect which improves insulin resistance.
- Inhibits fat-forming and lipogenic genes of fat, thereby reducing fat production.

#### Feiolix

- Through abscisic acid (ABA) activates GLP-1 secretion also through the AMPK pathway which helps with blood sugar regulation and appetite reduction.
- ABA binds to several different places within the AMPK pathway such as LANCL-1 and LANCL-2 receptors which cause downstream effects such as increased thermogenesis.
- ABA has several other functions such as increasing expression of relevant genes such glycogen synthase which increases the rate of glycogen synthesis when synergized with insulin. This increases glucose disposal and absorption and increases thermogenesis and satiety.

### Clinical Data:

- A 2022 review of 18 studies found significant body weight and BMI decreases in people who took berberine, particularly at doses >1 g per day for more than 8 weeks.
- A 2020 review found that berberine supplementation reduced body weight, BMI, and waist circumference.
- One clinical study gave participants with obesity 1.5 grams of berberine daily for 24 weeks and found significant reductions in BMI and waist circumference.

### Existing Similar Product:

Bio-Berberine Complex by Coyne Healthcare (Contains Berberine, Green tea extract, and Chromium)



### Formulation Option:



## 1. Feiolix® Metabolic Health on the Go

**Format:** Powder sachet

### Ingredients:

- Feiolix®: 2-300 mg
- Berberine (HCL or Berberis aristata extract): 500 mg
- Vitamin C: 60 mg
- BioPerine (Black pepper extract, improves absorption of berberine): 5 mg
- Natural flavors and sweeteners

### Benefits:

Supports metabolism, immunity, provides satiety, and aids in fat oxidation

## Ingredient: Green tea extract

### Approved Health Claim:

"Green tea extract may promote weight loss when combined with a reduced-calorie diet and regular physical activity."

### Rationale for Formulation with Feiolix:

Combining Feiolix with green tea extract creates a synergistic approach to weight management. Feiolix contains abscisic acid (ABA), which stimulates GLP-1 release, promoting insulin secretion and glucose absorption, while green tea extract contains catechins that increase fat oxidation and energy expenditure.

Green tea extract contains catechins, particularly epigallocatechin gallate (EGCG), which has been shown to increase fat oxidation and energy expenditure.

The combination of Feiolix and green tea extract could provide a multi-faceted approach to weight management by regulating appetite, improving insulin sensitivity, and enhancing metabolism.

### Mechanism of Action:

#### 1. Feiolix:

- a. Contains abscisic acid (ABA), which stimulates GLP-1 secretion
- b. GLP-1 promotes satiety, slows gastric emptying, and enhances insulin sensitivity
- c. ABA has been shown to enhance glucose absorption by skeletal muscle cells and increase insulin secretion from pancreatic  $\beta$  cells
- d. Xyloglucans in Feiolix act as prebiotics, supporting gut bacteria that produce short-chain fatty acids (SCFAs), can improve insulin sensitivity, regulate appetite, and reduce inflammation.

#### 2. Green Tea Extract:

- a. Contains catechins, particularly epigallocatechin gallate (EGCG), which inhibits catechol-O-methyltransferase (COMT), an enzyme that degrades norepinephrine, leading to prolonged sympathetic stimulation, increased norepinephrine, and enhanced fat oxidation.
- b. May increase energy expenditure and fat oxidation through thermogenesis.

### Clinical Data:

- A preclinical study showed that Feiolix at 300 mg/day was as effective as metformin in reducing elevated fasting blood glucose, triglycerides, total cholesterol, and LDL cholesterol.
- A meta-analysis of green tea extract studies found that catechin-caffeine mixtures significantly increased energy expenditure (mean effect of 4.7 kcal/24h) and fat oxidation.

# Menopause

**Existing Similar Product:**  
Hydroxycut Hardcore Elite, which contains green tea extract and caffeine for weight management

**Formulation Option:**  
Feiolix Weight Management Shake

- Feiolix: 1150 mg
- Green tea extract (standardized to 50% EGCG): 250 mg
- Whey protein isolate: 20 g
- Inulin (prebiotic fiber): 3 g
- Natural flavors and sweeteners



## 2. Feiolix® Appetite Control Gummies

**Format:** Gummy supplements

**Ingredients:**

- Feiolix®: 300 mg
- Garcinia cambogia extract: 250 mg
- Vitamin B6: 2 mg
- Zinc: 5 mg
- Pectin, natural flavors, and colors

**Benefits:**

Helps control appetite, supports metabolism, and provides micronutrients.



## 3. Feiolix® Metabolic Support Tablets

**Format:** Chewable tablets

**Ingredients:**

- Feiolix®: 1150 mg
- L-carnitine: 500 mg
- Cayenne pepper extract: 50 mg
- Vitamin D3: 1000 IU
- Excipients and flavoring

**Benefits:**

Enhances metabolic rate, supports fat metabolism, and provides antioxidants.

**Ingredient:** Soy isoflavones

**Approved Health Claim:**

"Soy isoflavones may help reduce the frequency and severity of menopausal hot flashes."

**Rational for Formulation with Feiolix:**

Feiolix supports metabolic health, which can be particularly beneficial during menopause when hormonal changes often lead to weight gain, impaired blood glucose tolerance, and lipidemia. Improving blood sugar control (ABA and GLP-1 effects) has been shown to help mitigate menopausal symptoms such as hot flushing. Soy isoflavones have estrogenic effects that can help alleviate menopausal symptoms. Combining these ingredients could address both the metabolic and hormonal aspects of menopause.

**Mechanism of Action:**

Feiolix regulates metabolism and reduces inflammation through its ABA content and prebiotic effects. ABA has been shown to improve insulin action on glycemia and stimulate glucose uptake in skeletal muscle cells via AMPK activation. This is particularly important during menopause, as the decline in estrogen can lead to metabolic changes and increased risk of type 2 diabetes. Soy isoflavones, particularly genistein and daidzein, bind to estrogen receptors, mimicking the effects of estrogen in the body. This can help alleviate various menopausal symptoms, including hot flashes and bone loss.



1. Feiolix's ABA improves insulin action on glycemia and stimulates glucose uptake in skeletal muscle cells via AMPK activation.
2. Soy isoflavones, particularly genistein and daidzein, bind to estrogen receptors, mimicking estrogen's effects in the body.
  - May help reduce the frequency and severity of hot flashes.
3. Feiolix's ellagitannins possess anti-inflammatory properties, which may help reduce systemic inflammation associated with menopause.

**Clinical Data:**

- A recent market acceptance testing of Feiolix for menopausal symptom relief showed up to 57% improvement in menopausal symptoms.
- A meta-analysis of 17 studies found that soy isoflavone supplements significantly reduced hot flash frequency and severity compared to placebo.

**Existing Similar Product:**

Estroven Weight Management, which contains soy isoflavones and black cohosh for menopausal symptom relief.

**Formulation Option:**

Feiolix Menopause Support Capsules

- Feiolix: 700 mg
- Soy isoflavones (40% standardised): 50 mg
- Vitamin D3: 1000 IU
- Calcium citrate: 250 mg
- Black cohosh extract: 40 mg



## **Ingredient:** Maca Root Extract

### **Approved Health Claim:**

"Maca root extract may help alleviate menopausal symptoms and support hormonal balance in women."

### **Rational for Formulation with Feiolix:**

Feiolix supports metabolic health, which is crucial during menopause when hormonal changes often lead to weight gain and insulin resistance. Maca root extract has been shown to alleviate menopausal symptoms, particularly hot flashes and mood disturbances. The combination could address both the metabolic and hormonal aspects of menopause.

### **Mechanism of Action:**

1. Feiolix's ABA improves insulin action on glycemia and stimulates glucose uptake in skeletal muscle cells via AMPK activation.
2. Maca root contains alkaloids that act on the hypothalamus-pituitary axis and the adrenals, helping to balance hormone levels.
3. Maca's flavonoids may have estrogenic activity, potentially alleviating symptoms caused by estrogen decline.
4. The combination may help regulate metabolism, reduce inflammation, and alleviate menopausal symptoms.

### **Clinical Data:**

A double-blind, placebo-controlled study with 124 postmenopausal women showed that maca root (2 g/day) significantly reduced menopausal discomfort, particularly hot flashes and night sweats, after 2 months of treatment.



### **Existing Similar Product:**

Femmenessence MacaPause, which contains maca root extract for menopausal symptom relief.

### **Formulation Option:**

Feiolix Menopause Support Tablets

- Feiolix: 500 mg
- Maca Root Extract (0.6% Macamides and Macaenes): 250 mg
- Vitamin D3: 1000 IU
- Calcium citrate: 250 mg



## **1. Feiolix® Menopause Relief Smoothie Mix**

**Format:** Powder for blending

### **Ingredients:**

- Feiolix®: 700 mg
- Soy isoflavones: 50 mg
- Black cohosh extract: 40 mg
- Calcium citrate: 500 mg
- Vitamin E: 15 mg
- Natural flavors and sweeteners

### **Benefits:**

Supports hormonal balance, bone health, and provides antioxidants.



## **2. Feiolix® Cool & Calm Capsules**

**Format:** Vegetarian capsules

### **Ingredients:**

- Feiolix®: 700 mg
- Red clover extract: 250 mg
- Magnesium glycinate: 100 mg
- Vitamin B6: 10 mg
- Sage leaf extract: 100 mg

### **Benefits:**

Helps manage hot flashes, supports mood, and provides essential nutrients.



## **3. Feiolix® Menopause Support Tea**

**Format:** Herbal tea blend

### **Ingredients:**

- Feiolix®: 700 g per tea bag
- Chamomile flowers: 500 mg
- Licorice root: 250 mg
- Dong quai root: 250 mg
- Lemon balm leaves: 250 mg

### **Benefits:**

Supports relaxation, hormonal balance, and overall well-being during menopause.

# Functional Food

## Ingredient: Actazin and Livaux

### Approved Health Claim:

"Supports normal bowel function by promoting bowel regularity"

"May help support healthy blood glucose levels"

"May help support cardiovascular function"

"Supports digestive comfort"

"Supports gut microbiome balance"

"May help maintain healthy triglyceride and cholesterol levels"

### Rational for Formulation with Feiolix:

This formulation combines three scientifically-backed ingredients derived from fruits to provide a synergistic approach to metabolic and digestive health. Each component offers unique benefits that complement each other:

1. Feiolix (from feijoa) supports metabolic health and weight management
2. Actazin (from green kiwifruit) improves digestive comfort and bowel regularity
3. Livaux (from gold kiwifruit) enhances gut microbiome health

### Mechanism of Action:

1. Feiolix:
  - Contains high levels of abscisic acid (ABA), which stimulates GLP-1 secretion
  - Enhances insulin secretion and improves insulin sensitivity
  - Reduces inflammation, particularly in the central nervous system
  - Increases thermogenesis in fat cells
  - Supports appetite regulation
2. Actazin:
  - Provides complex dietary fiber that slowly ferments along the colon
  - Contains actinidin, a protein-digesting enzyme that enhances protein breakdown
  - Improves stool consistency and frequency
  - Reduces bloating and gastric discomfort
3. Livaux:
  - Increases the abundance of beneficial gut bacteria, particularly *Faecalibacterium prausnitzii*
  - Provides prebiotic fibers that support gut microbiome health
  - May improve gut barrier function and reduce inflammation

### Clinical Evidence:

1. Feiolix:
  - Demonstrated a 0.86% reduction in HbA1c over 12 weeks in humans
  - Showed a 6.7 mmHg reduction in systolic blood pressure
  - Reduced fasting blood glucose by 36.3 mg/dL
  - Decreased blood triglycerides by 38 mg/dL
  - Lowered total cholesterol by 17.5 mg/dL and LDL cholesterol by 18.1 mg/dL
2. Actazin:
  - At 600 mg/day for 28 days, significantly increased the number of weekly bowel movements in healthy individuals
  - Improved stool form and reduced symptoms of constipation, bloating, and gastric discomfort
  - Enhanced protein digestion, potentially reducing bloating associated with high-protein diets
3. Livaux:
  - Supplementation with 2400 mg/day significantly increased the abundance of *F. prausnitzii* in functionally constipated individuals
  - *F. prausnitzii* is associated with anti-inflammatory effects and improved gut health

### Formulation Option:

Metabolic and Digestive Health Optimizer (Fortified juice)

- Actazin: 600 mg
- Feiolix : 300 mg
- Livaux : 600 mg



## **Ingredient:** Resistant Starch

### **Approved Health Claim:**

"Resistant starch may help improve insulin sensitivity and support digestive health when consumed as part of a balanced diet."

### **Rational for Formulation with Feiolix:**

Feiolix contains xyloglucans that support beneficial gut bacteria. Resistant starch is a prebiotic fiber that also promotes the growth of beneficial bacteria. Combining these ingredients could create a synergistic effect, enhancing overall gut health and potentially improving metabolic outcomes.

### **Mechanism of Action:**

1. Feiolix's xyloglucans and resistant starch serve as food sources for beneficial gut bacteria, producing short-chain fatty acids (SCFAs) that improve insulin sensitivity and regulate appetite.
2. Resistant starch specifically increases butyrate production, which has anti-inflammatory effects and improves insulin sensitivity.
3. The combination enhances the production of propionate, a SCFA that acts in the liver to control energy management and storage.

### **Clinical Data:**

A 4-week randomized, placebo-controlled trial with 33 subjects showed that resistant starch supplementation (40 g/day) significantly improved insulin sensitivity compared to placebo.

### **Existing Similar Product:**

Fiber One Cereal, which contains resistant starch for digestive health.

### **Formulation Option:** Feiolix Prebiotic Smoothie Mix

- Feiolix: 300 mg
- Resistant Starch (Hi-maize 260): 5 g
- Whey protein isolate: 15 g
- Natural flavors and sweeteners



## **1. Feiolix® Energy Bar**

**Format:** Nutrition bar

### **Ingredients:**

- Feiolix®: 300 mg
- Oats, rice protein, coconut oil
- Dried fruits (pineapple, papaya, cranberry)
- Almonds, brown rice syrup
- Vitamin and mineral premix

### **Benefits:**

Provides sustained energy, supports metabolic health, and offers a convenient nutritious snack



## **2. Feiolix® Probiotic Muffins**

**Format:** Dairy or plant-based muffin

### **Ingredients:**

- Feiolix®: 300 mg per serving
- Probiotic cultures (e.g., Lactobacillus, Bifidobacterium)
- Prebiotic fiber (e.g., inulin)
- Vitamin D3: 400 IU
- Natural flavors and sweeteners

### **Benefits:**

Supports gut health, provides probiotics and prebiotics, and offers immune support



## **3. Feiolix® Functional Beverage**

**Format:** Herbal tea blend

### **Ingredients:**

- Feiolix®: 300mg per bottle
- Green tea extract: 200 mg
- Electrolyte blend (sodium, potassium, magnesium)
- B-vitamin complex
- Natural fruit flavors and stevia

### **Benefits:**

Provides hydration, antioxidants, and supports overall health and well-being



# Blood Pressure

## Ingredient: Hawthorn Extract

### Approved Health Claims:

"May help support cardiovascular function"

### Rational for Formulation with Feiolix:

Combining Feiolix's metabolic and cardiovascular support with hawthorn's cardiovascular benefits may provide synergistic effects for blood pressure management. Feiolix addresses multiple factors contributing to hypertension, including insulin sensitivity and inflammation, while hawthorn offers complementary vasodilatory effects.

### Mechanism of Action:

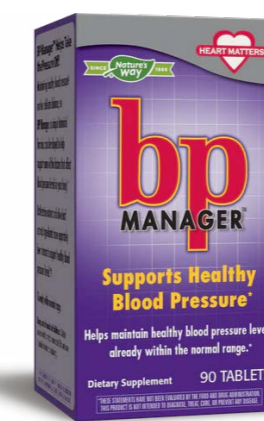
Feiolix contains abscisic acid (ABA), which enhances GLP-1 action, improves insulin sensitivity, reduces inflammation, and may influence vascular tone through LANCL2 receptor interactions. It also supports weight management and improves lipid profiles. Hawthorn extract contains flavonoids and oligomeric procyanidins that exhibit vasodilatory and antioxidant effects, lowering blood pressure through endothelium-dependent vasodilation and ACE inhibition.

### Clinical Evidence:

Feiolix demonstrated a 6.7 mmHg reduction in systolic blood pressure in human trials. A randomized controlled trial with hawthorn extract (1200 mg/day for 16 weeks) reduced diastolic blood pressure by 2.6 mmHg in diabetic patients.

### Existing Similar Product:

Nature's Way Blood Pressure Support



### Formulation Option: Feiolix + Hawthorn Extract Blood Pressure Support Capsule:

- Feiolix 1500 mg (standardized to contain more than 4 mg of abscisic acid per 100 grams)
- Hawthorn extract (standardized to 2.2% vitexin-2"-O-rhamnoside) 600 mg

## Ingredient: Black Garlic

### Health Claims:

"May help maintain healthy blood pressure levels"

### Rational for Formulation with Feiolix:

Black garlic's antioxidant properties complement Feiolix's comprehensive metabolic and cardiovascular benefits. This combination addresses multiple factors contributing to hypertension, including vascular function, insulin sensitivity, and oxidative stress.

### Mechanism of Action:

Feiolix's ABA content enhances GLP-1 action, improves insulin sensitivity, reduces inflammation, and may influence vascular tone. It also promotes thermogenesis and improves lipid profiles. Black garlic's S-allyl-cysteine (SAC) inhibits ACE activity and increases nitric oxide production, leading to vasodilation.

### Clinical Evidence:

Feiolix showed a 6.7 mmHg reduction in systolic blood pressure and improvements in metabolic markers. A study with black garlic extract (0.25 mg/day SAC for 12 weeks) reduced systolic and diastolic blood pressure by 1.8 mmHg and 1.5 mmHg respectively in Grade I hypertensive patients.

**Existing Similar Product:**  
Kyolic Aged Garlic Extract

**Formulation Option: Feiolix + Hawthorn Extract Blood Pressure Support Capsule:**

- Feiolix 1500 mg (standardized to contain more than 4 mg of abscisic acid per 100 grams)
- Black garlic extract (standardized to 0.1% S-allyl-cysteine) 250 mg



## 2. Magnesium-Feiolix Cardio Support

**Format:** Capsule

**Ingredients:**

- Feiolix 1150 mg (standardized to contain more than 4 mg of abscisic acid per 100 grams)
- Magnesium citrate 200 mg (providing 32 mg elemental magnesium)

**Benefits:**

Magnesium's role in blood pressure regulation complements Feiolix's comprehensive metabolic and cardiovascular benefits. This combination addresses electrolyte balance, vascular function, and metabolic factors in hypertension.



## 1. Hibiscus-Feiolix Blood Pressure Blend

**Format:** Tea bag

**Ingredients:**

- Feiolix 1150 mg (standardized to contain more than 4 mg of abscisic acid per 100 grams)
- Hibiscus sabdariffa extract (standardized to 45% total organic acids) 450 mg

**Benefits:**

Hibiscus's vasodilatory effects complement Feiolix's comprehensive metabolic and cardiovascular support. This combination addresses both vascular and metabolic aspects of hypertension, offering a multi-faceted approach to blood pressure management.



## 3. Cinnamon-Feiolix Metabolic Support

**Format:** Sachet

**Ingredients:**

- Feiolix 1150 mg (standardized to contain more than 4 mg of abscisic acid per 100 grams)
- Cinnamon bark extract (standardized to 8% type-A polymers) 500 mg

**Benefits:**

Cinnamon's potential to improve insulin sensitivity synergizes with Feiolix's comprehensive metabolic and cardiovascular benefits. This combination addresses multiple factors contributing to hypertension, including metabolic dysfunction, insulin resistance, and vascular health.

# Synbiotic

**Ingredient:** *Lactobacillus rhamnosus GG* (LGG)

**Approved Health Claim:**

"*Lactobacillus rhamnosus GG* may help support digestive health and immune function when consumed regularly."

**Rational for Formulation with Feiolix:**

Feiolix's prebiotic components, particularly xyloglucans, can serve as a food source for probiotic bacteria like LGG. This combination could create a true synbiotic product, where the prebiotic components of Feiolix support the growth and activity of the probiotic LGG, while LGG itself has been shown to improve gut barrier function and potentially influence metabolism.

**Mechanism of Action:**

Feiolix provides prebiotic fibers that LGG can ferment, producing beneficial metabolites like SCFAs. LGG itself has been shown to improve gut barrier function, modulate the immune system, and potentially influence metabolism. The synbiotic combination can enhance the production of SCFAs, which stimulate GLP-1 and PYY release from L cells, contributing to improved metabolic health and satiety.

1. Feiolix

1. Xyloglucans provide a food source for LGG, enhancing its growth and activity.
2. Stimulates GLP-1 secretion through its ABA content, supporting metabolic health

2. *Lactobacillus rhamnosus GG*:

1. Improves gut barrier function and modulates the immune system.
2. May influence metabolism and potentially support weight management.
3. The combination enhances the production of SCFAs, which stimulate GLP-1 and PYY release from L cells, contributing to improved metabolic health and satiety.

**Clinical Data:**

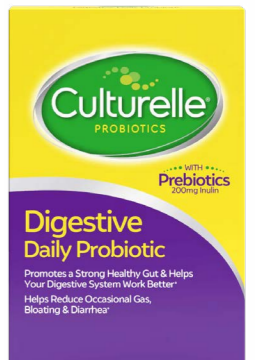
- Feiolix has been shown to promote the growth of various probiotics, including *Lactobacillus* species, by up to over 300% compared to control
- A meta-analysis of 19 studies found that *L. rhamnosus GG* supplementation significantly reduced the duration of diarrhea in children and adults.

**Existing Similar Product:**

Culturelle Digestive Daily Probiotic, which contains *Lactobacillus rhamnosus GG* for digestive health.

**Formulation Option:** Feiolix Synbiotic Powder

- Feiolix: 300 mg
- *Lactobacillus rhamnosus GG*: 10 billion CFU
- Fructooligosaccharides (FOS): 2 g
- Zinc citrate: 15 mg
- Vitamin C: 100 mg



## **Ingredient:** *Bifidobacterium lactis* B420

### **Approved Health Claim:**

"Bifidobacterium lactis B420 may help support digestive health and immune function when consumed regularly."

### **Rational for Formulation with Feiolix:**

Feiolix's prebiotic components, particularly xyloglucans, can serve as a food source for probiotic bacteria like *B. lactis* B420. This combination could create a true synbiotic product, where the prebiotic components of Feiolix support the growth and activity of *B. lactis* B420.

### **Mechanism of Action:**

1. Feiolix's xyloglucans provide a food source for *B. lactis* B420, enhancing its growth and activity.
2. *B. lactis* B420 has been shown to improve gut barrier function and modulate the immune system.
3. The combination enhances the production of SCFAs, which stimulate GLP-1 and PYY release from L cells, contributing to improved metabolic health and satiety.
4. *B. lactis* B420 has also been shown to reduce body fat mass and trunk fat mass in overweight and obese adults.

### **Clinical Data:**

A 6-month, double-blind, placebo-controlled study with 225 overweight and obese adults showed that *B. lactis* B420 (10 billion CFU/day) alone, or in combination with a prebiotic fiber, controlled body fat mass and reduced waist circumference and food intake.

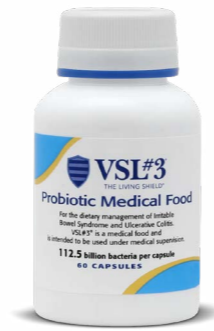
### **Existing Similar Product:**

VSL#3, a multi-strain probiotic that includes Bifidobacterium species.

### **Formulation Option:**

Feiolix Synbiotic Powder

- Feiolix: 300 mg
- *Bifidobacterium lactis* B420: 10 billion CFU
- Fructooligosaccharides (FOS): 2 g
- Zinc citrate: 15 mg



## **1. Feiolix® Gut Health Powder**

**Format:** Powder for reconstitution

### **Ingredients:**

- Feiolix®: 300 mg
- Probiotic blend (10 billion CFU): *L. rhamnosus*, *B. lactis*, *B. coagulans*
- Prebiotic fiber blend: Acacia gum, inulin
- Zinc: 5 mg
- Vitamin C: 50 mg

### **Benefits:**

Supports digestive health, immune function, and provides synergistic pre- and probiotic effects.



## **2. Feiolix® Synbiotic Soft Chews**

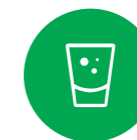
**Format:** Soft chewable supplements

### **Ingredients:**

- Feiolix®: 300 mg
- Probiotic blend (5 billion CFU): *L. acidophilus*, *B. bifidum*
- Fructooligosaccharides (FOS): 1 g
- Vitamin D3: 1000 IU
- Natural fruit flavors

### **Benefits:**

Promotes gut health, supports immune system, and provides a convenient synbiotic supplement.



## **3. Feiolix® Digestive Health Shots**

**Format:** Liquid supplement shots

### **Ingredients:**

- Feiolix®: 300 mg per 30 ml shot
- Probiotic blend (2 billion CFU): *L. plantarum*, *L. reuteri*
- Apple cider vinegar: 5 ml
- Ginger extract: 100 mg
- Aloe vera juice: 5 ml

### **Benefits:**

Supports digestive health, provides probiotics, and offers a quick, convenient format.

# Fun Formats

## Ingredient: Vitamin C (as ascorbic acid)

### Approved Health Claim:

"Vitamin C contributes to the normal function of the immune system and helps protect cells from oxidative stress."

### Rational for Formulation with Feiolix:

Feiolix's metabolic health benefits could be complemented by vitamin C's antioxidant properties and immune support. This combination could be particularly appealing in a fun format like effervescent tablets or gummies, offering both metabolic and immune health benefits, that is enjoyable and easy-to-consume.

### Mechanism of Action:

Feiolix supports metabolic health through its ABA content and prebiotic effects. ABA has been shown to increase postprandial thermogenesis and reduce weight gain from a high-fat diet. Vitamin C acts as an antioxidant, protecting cells from oxidative stress, and supports various aspects of immune function.

1. Feiolix's ABA supports metabolic health through its effects on insulin secretion and glucose uptake
2. Vitamin C acts as an antioxidant, protecting cells from oxidative stress and supporting various aspects of immune function.
3. The effervescent format may enhance the absorption of both Feiolix and Vitamin C.

### Existing Similar Product:

Airborne Gummies, which contain vitamin C and other immune-supporting ingredients in a gummy format.

### Formulation Option:

Feiolix Fizzy Immune Support Tablets

- Feiolix: 300 mg
- Vitamin C: 500 mg
- Zinc: 15 mg
- Elderberry extract: 100 mg
- Natural flavors and sweeteners
- Effervescent agents (e.g., sodium bicarbonate, citric acid)



## 1. Feiolix® Fizzy Wellness Tablets

**Format:** Effervescent tablets

### Ingredients:

- Feiolix®: 500 mg
- Vitamin C: 500 mg
- Elderberry extract: 100 mg
- Zinc: 10 mg
- Natural flavors and sweeteners

### Benefits:

Supports immune health, provides antioxidants, and offers a fun, fizzy drinking experience.



## 2. Feiolix® Functional Fruit Leather

**Format:** Fruit leather strips

### Ingredients:

- Feiolix®: 300 mg per strip
- Pureed fruits (apple, strawberry)
- Chia seeds: 1 g
- Vitamin E: 5 mg
- Natural colors and flavors

### Benefits:

Provides a healthy snack option with added functional benefits and fiber.



## 3. Feiolix® Wellness Popsicles

**Format:** Frozen popsicles

### Ingredients:

- Feiolix®: 300 mg per popsicle
- Coconut water
- Mixed berry puree
- Honey or agave nectar
- Probiotic cultures (1 billion CFU)

### Benefits:

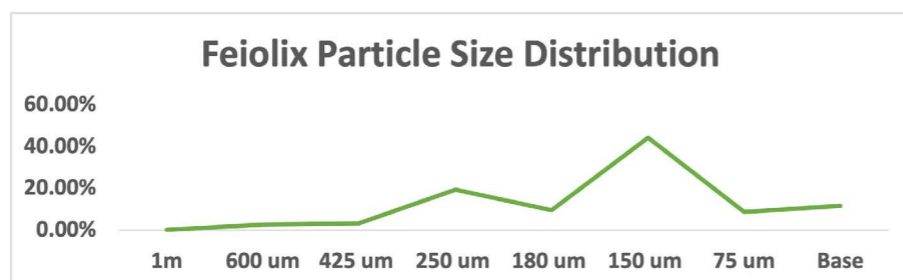
Offers a refreshing treat with gut health and hydration benefits.



## Manufacturing Aid

<b>Appearance</b>	Free Flowing Powder
<b>Color</b>	Tan to light brown
<b>Taste/Odour</b>	Delicious! Tastes just like a feijoa (somewhere between a guava, a pineapple, and a pear)
<b>Abscisic acid</b>	>4.00 mg/100g
<b>Powder nature</b>	Mildly hygroscopic
<b>Storage</b>	Store and transport cool and dry
<b>Temperature processing</b>	Suitable for high temperature processing
<b>Particle size</b>	Milled through US 20 mesh
<b>Bulk density poured</b>	0.5 g/ml
<b>Bulk density tapped</b>	0.63 g/mL
<b>Hausner's Ratio</b>	1.26
<b>Carr's Index</b>	20.6
<b>Shelf Life</b>	36 months
<b>Format Recommendations</b>	Chewables, Powder, Capsules, Functional Foods
<b>Processing Aid recommendations</b>	Magnesium Stearate, MCC, Aerosil

These formulations leverage the unique properties of Feiolix while adding complementary ingredients to create potentially synergistic effects for various health outcomes. The rationale and mechanisms provided are based on current scientific understanding and research, but as always, further studies may be needed to fully elucidate the combined effects of these ingredients.

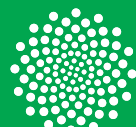


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