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BRANDS®

# HMF Fitness

PROBIOTIC FORMULA

## Probiotic formula with added citrus and guarana extracts for weight management support

- Helps to support weight management when used with a calorie-reduced diet and regular physical activity
- Provides 30 billion CFU per day from a combination of five proprietary probiotic strains
- Supplies 900 mg per day of a clinically studied citrus and guarana extract blend daily

Genestra HMF Fitness is a combination of research-driven probiotics and a clinically studied citrus and guarana extract blend that helps to support weight management when used with a calorie-reduced diet and regular physical activity. In two randomized, double-blind, placebo-controlled trials, supplementation with the extract for 12 weeks, in combination with a strict diet and exercise regimen, significantly decreased the percent change in abdominal body fat, body weight, and waist and hip circumference when compared to the placebo group.<sup>1,2</sup> Research demonstrates that citrus fruits found in the extract, including grapefruit and oranges, contain bioflavonoids that support lipolysis (breakdown of triglyceride into glycerol and free fatty acids).<sup>3,4</sup> As daily probiotic supplementation is also considered a key component of any healthy diet, HMF Fitness contains five proprietary probiotic strains to contribute to a favourable gut flora and support gastrointestinal health.<sup>5</sup>

#### REFERENCES

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#### EACH CAPSULE CONTAINS:

Probiotic Consortium	15 billion CFU
<i>Lactobacillus acidophilus</i> (CUL-60 & CUL-21)	9.375 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-34) & <i>Bifidobacterium bifidum</i> (CUL-20)	3.125 billion CFU
<i>Lactobacillus plantarum</i> (CUL-66)	2.5 billion CFU
Citrus & Guarana Extract Blend	450 mg
Grapefruit ( <i>Citrus paradisi</i> ) Fruit and Peel Extract (50:1)	270 mg
13.5 g Dried Equivalent	
Providing:	
Bioflavonoids	90 mg
Sweet Orange ( <i>Citrus sinensis</i> ) Fruit and Peel Extract (50:1)	675 mg
3.375 g Dried Equivalent	
Blood Orange ( <i>Citrus sinensis</i> ) Fruit and Peel Extract (50:1)	22.5 mg
1.125 g Dried Equivalent	
Guarana ( <i>Paullinia cupana</i> ) Seed Extract (4:1)	90 mg
360 mg Dried Equivalent, 10.8 mg Caffeine	

Non-Medicinal Ingredients: Hypromellose, cellulose, silica

#### Recommended Dose

**Adults:** Take one capsule two times daily with meals, at least two to three hours before or after taking antibiotics, or as recommended by your healthcare practitioner. Consult your healthcare practitioner for use beyond twelve weeks.

<b>Size</b>	<b>Product Code</b>
60 Vegetable Capsules	10356

NPN 80070598



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# HMF Fitness

## Scientific Rationale:

Fat accumulation is associated with weight gain, and usually results from an imbalance between energy intake and expenditure.<sup>1,2</sup> Globally, the increased intake of high caloric, high fat diets and sedentary lifestyles have contributed extensively to this energy imbalance.<sup>2,3</sup> Excess calories consumed are converted into fat and first stored in subcutaneous fat stores (directly under the skin).<sup>3</sup> Once these stores are filled to capacity, visceral fat stores (packed between organs deep inside the abdominal cavity) are used.<sup>3</sup> The distribution of fat is an important factor in overall health, with abdominal fat accumulation associated with the greatest changes in metabolic regulation.<sup>3</sup>

Citrus fruits, including grapefruits and oranges, contain high levels of bioflavonoids.<sup>4</sup> Naringin is one of the most important bioflavonoids isolated from citrus fruits.<sup>4</sup> It is metabolized by gut flora and absorbed in the intestines as naringenin.<sup>4</sup> In addition to its antioxidant effects, naringenin has been investigated for its effects on lipid metabolism.<sup>4</sup> Preclinical research involving naringenin has reported its ability to mediate lipolysis (breakdown of triglyceride into glycerol and free fatty acids) by upregulating genes involved in fatty acid oxidation, while downregulating those related to cholesterol and fatty acid synthesis.<sup>5,6</sup> Similarly, guarana (a fruit naturally containing caffeine) has also demonstrated lipolytic activity in adipocytes.<sup>6</sup>

HMF Fitness contains a researched citrus and guarana extract blend. Studies involving mice have shown that supplementation with this extract blend may help control body weight and fat composition by promoting healthy serum lipid profiles and regulating the expression of genes related to lipid metabolism.<sup>7</sup> Furthermore, *in vitro* research reported that a similar citrus and guarana extract blend promoted lipolytic activity in adipocytes.<sup>8,9</sup> In addition to mediating certain genes, researchers have suggested that citrus polyphenols contained in the blend may promote lipolysis by inhibiting the enzyme phosphodiesterase (PDE).<sup>6</sup> In turn, this would result in the breakdown of stored triglycerides into glycerol and free fatty acids.<sup>6</sup> The fatty acids released could then be used as fuel by the body.<sup>6</sup>

One randomized, double-blind, placebo-controlled trial evaluated the effects of the citrus and guarana extract found in HMF Fitness on body fat in adults.<sup>10</sup> Participants aged 22-45 were randomly assigned to consume either a placebo or 900 mg of the extract daily for 12 weeks.<sup>10</sup>

They consumed a calorie-reduced diet (1800-2000 kcal/day for women and 2000-2500 kcal/day for men) and were instructed to participate in regular physical activity (30 minutes per week).<sup>10</sup> Body composition was assessed at baseline and after the 12-week study period.<sup>10</sup> Researchers reported that supplementation with the extract significantly decreased abdominal body fat (-9.7%), body weight (-3.2%, approximately -2.6 kg), and waist (-5.7%, approximately -5.1 cm) and hip circumference (-4.7%, approximately -5.2 cm), with each change significantly greater than placebo values.<sup>10</sup> Therefore, the citrus and guarana extract supported weight management when used with the calorie-reduced diet and regular physical activity.<sup>10</sup>

Another randomized, double-blind, placebo-controlled trial investigated the effects of the citrus and guarana extract blend on body composition.<sup>11</sup> Male participants aged 30-45 were randomly assigned to consume either a placebo or 900 mg of the extract daily for 12 weeks.<sup>11</sup> They were also instructed to follow the same normo-caloric diet (2200-2500 kcal daily) and exercise program (30 minutes per week).<sup>11</sup> Body composition was assessed at baseline and after the 12-week supplementation period.<sup>11</sup> Once again, researchers reported that the extract significantly decreased overall body weight (-3.75%), abdominal fat (-9.7%), waist-to-hip ratio (-2.2%), and waist (-7.5%, approximately -7.4 cm) and hip circumference (-5.3 cm), with each change significantly greater than placebo values.<sup>11</sup> This further demonstrates that the citrus and guarana extract supports weight management in combination with a strict diet and exercise program.<sup>11</sup>

Daily probiotic supplementation is also considered a key component of any healthy diet.<sup>12</sup> Probiotics help maintain a healthy balance of bacteria in the intestines, which is critical for overall good health.<sup>12</sup> In addition, beneficial bacteria promote the production of short chain fatty acids (SCFA), an important energy source for colon cells.<sup>13</sup> SCFA also maintain an acidic intestinal pH, further contributing to a healthy microflora composition.<sup>13</sup> HMF Fitness is formulated using a proprietary *Lactobacillus* and *Bifidobacterium* probiotic consortium - microorganisms that have been used in a wide body of clinical research. Studied demonstrate that these strains support a healthy gut flora and promote gastrointestinal comfort. A recent *in vitro* study investigated *L. plantarum* (CUL-66) and its mechanism of modulating intestinal cholesterol metabolism, suggesting a potential role for weight management.<sup>14,15</sup>

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