

MYOPEP

Feel. Fit. Fantastic.

MYOPEP is a new TGA-certified, over-the-counter weight management supplement that facilitates the maximization of weight loss results from regular physical training and healthy diet. The concentrated amount of follistatin peptides from TGF- β superfamily enriching the colostrum powder and a blend of purified botanical extracts help MYOPEP's patients to acquire healthier and better weight loss through myostatin-inhibition and metabolic regulation.

Principal Indication.

MYOPEP supports weight loss with ingredients that have been scientifically demonstrated to: increase energy, decrease fat absorption, stimulate metabolism, enhance muscular strength and endurance, and increase fat oxidation.

Other Potential Indications (Developmental Pipeline).

MYOPEP is formulated with ingredients that may counteract muscular degeneration for anti-aging (preventive system for sarcopenia).

Composition.

Dosage Form:	Powdered Tablets		
Therapeutic Use:	Dietary Supplement		
Recommended Intake:	2 tablets/day (maximum daily dose 6 tablets)		
Composition: 60 tablets/pack	Colostrum Powder	25mg	The colostrum powder used in MYOPEP formula is enriched with purified Follistatin and Leptin. <i>Follistatin is a peptide from TGF-β superfamily of peptides that neutralizes the function of myostatin (GDF-8) to facilitate greater myogenesis and glucose utilization¹. The anabolic amino acid complex deactivates the specialised protein myostatin by blocking it from binding with cell-bound receptors on muscle tissues, which would otherwise stop the differentiation of myoblasts into mature muscle fibers². The deactivation of myostatin protein accelerates myogenesis and simultaneously elevates level of glycolysis, causing body fat to be broken down into sugar to feed healthy muscular action and growth.</i> <i>Leptin is a key regulator of energy intake and expenditure by targeting receptors in the mediobasal hypothalamus³. This protein hormone also controls appetite by activating a signaling cascade to the brain to produce a feeling of satiety⁴. Leptin is able to prevent the plateauing of weight loss results commonly observed in a diet program.</i>
	Cinnamomum Cassia (stem bark)	50mg 500mg	Cinnamomum cassia stem bark extract is capable of enhancing glycolysis, regulating blood glucose and plasma insulin levels, which may assist in managing weight gain related to insulin resistance ⁵ . As demonstrated in recent studies, cinnamon extract is a key nutraceutical agent in suppressing postprandial hyperglycemia by inhibiting alpha-glucosidase, and regulating glucose transporter and insulin-signaling gene expression ⁶ .
	Eleutherococcus Senticosus (root)	100mg 1.5g	Eleutherococcus senticosus (panax ginseng) root extract has an anti-depressant effect that may elevate mood, regulate emotional eating and curtail stress-related weight gain. ⁷ Panax ginseng extract also increases endurance, physical motor activity and psycho-physical performance parameters. ⁸
	Fucus Vesiculosus (whole plant)	73mg 146mcg 365mg	Fucus vesiculosus (bladder wrack) extract is effective in addressing underactive thyroid glands (myxedema). It has a rich source of iodine to stimulate thyroid function ⁹ . Fucus vesiculosus extract also contains algin, which can act as a laxative to help stool pass through bowels.
	Salix Alba (stem bark)	165mg 4.125g	Salix alba (white willow) extract is a primary enhancer of the other thermogenic ingredients in MYOPEP formula. Salix alba extract has synergistic effect in the formula, which may further extend and elevate energy expenditure and fat metabolism.
	Paullinia Cupana (seed)	250mg	Paullinia cupana (guarana) extract has effects such as cognitive enhancement, anti-fatigue, appetite suppressant and mood enhancement,

¹ Lee SJ. Quadrupling muscle mass in mice by targeting TGF-beta signaling pathways. PLoS ONE 2007;2:e789. [PubMed:16330774]

² Lee SJ, McPherron AC. Regulation of myostatin activity and muscle growth. Proc Natl Acad Sci U S A 2001; 98:9306-9311. [PubMed:11459935]

³ Brennan AM, Mantzoros CS (June 2006). "Drug Insight: the role of leptin in human physiology and pathophysiology--emerging clinical applications". *Nat Clin Pract Endocrinol Metab* 2 (6): 318-327.

⁴ Weigle D, Duell P, Connor W, Steiner R, Soules M, Kuijper J (1997). "Effect of fasting, refeeding, and dietary fat restriction on plasma leptin levels". *J. Clin. Endocrinol. Metab.* 82 (2): 561-565.

⁵ Verspohl EJ, Bauer K, Neddermann E. Antidiabetic effect of Cinnamomum cassia and Cinnamomum zeylanicum in vivo and in vitro. *Phytother Res* 2005; 19: 203-6.

⁶ Mohamed Sham Shihabudeen H, Hansi Priscilla D, Thirumurugan K. Cinnamon extract inhibits α -glucosidase activity and dampens postprandial glucose excursion in diabetic rats. *Nutr Metab (Lond)*. 2011 Jun 29;8(1):46. doi: 10.1186/1743-7075-8-46. PubMed PMID: 21711570; PubMed Central PMCID: PMC3155477.

⁷ Kurkin VA, Dubishchev AV, Ezhkov VN, Titova IN, Avdeeva EV (2006). "Antidepressant activity of some phytopharmaceuticals and phenylpropanoids". *Pharmaceutical Chemistry Journal* 40 (11): 614-9.

⁸ Sotaniemi EA, Haapakoski E, Rautio A. Ginseng therapy in non-insulin-dependent diabetic patients. *Diabetes Care*. 1995 Oct;18(10):1373-5. PubMed PMID: 8721940.

⁹ P.R. Bradley (1992). *British Herbal Compendium*. 1. Bournemouth, England: British Herbal Medicine Association. ISBN 0-903032-09-0.

<ul style="list-style-type: none"> Concentration of 4:1 equiv. to Paullinia Cupana dry Equiv. to Caffeine 	<p>1g</p> <p>50mg</p>	<p>which may contribute to the overall weight loss effect¹⁰.</p> <p>Guarana has twice the concentration of caffeine found in coffee beans.</p> <p>Caffeine is a potent central nervous system stimulant and energy accelerant. Paraxanthine, a metabolite of caffeine, increases lipolysis and decreases appetite.</p>
<p>Frangula Purshiana (stem bark)</p> <ul style="list-style-type: none"> Equiv. to hydroxyanthracene derivatives calculated as cascarioside A Concentration of 4:1 equiv. to Frangula Purshiana dry 	<p>150mg</p> <p>6mg</p> <p>600mg</p>	<p>Frangula purshiana (cascara) stem bark extract is a natural stimulant laxative that may drive the metabolic cleansing process involved in weight loss by encouraging bowel movement¹¹.</p> <p>Cascara extract contains hydroxyanthracene glycosides (cascarosides A) which is primarily responsible for the laxative action, and may reduce fat absorption in the large intestine.</p>
<p>Phenylalanine</p>	<p>62.5mg</p>	<p>Phenylalanine is the precursor to tyrosine, the monoamine signaling molecules dopamine, norepinephrine, and epinephrine. It increases the production of dopamine and norepinephrine, which elevates mood and causes an anti-depression effect.</p> <p>Phenylalanine can stimulate the production of cholecystokinin, an appetite-suppressing hormone, allowing a feeling of satiety and as an appetite suppressant¹².</p>
<p>Tyrosine</p>	<p>2.5mg</p>	<p>Tyrosine is one of the 22 amino acids that are used by cells to synthesize proteins. Being the precursor to neurotransmitters and hormones (including thyroid), tyrosine increases plasma neurotransmitter levels (particularly dopamine and norepinephrine) to enhance metabolism¹³.</p> <p>Tyrosine can improve performance under stress.</p>
<p>Inactive ingredients: Maltodextrin, Cellulose - microcrystalline, Silica - colloidal anhydrous, Magnesium stearate, Crospovidone, Calcium hydrogen phosphate</p>		

Biological Mechanisms.

Myostatin-inhibition (Follistatin); Glycolysis and Adipolysis Regulation (Follistatin/Leptin/Cinnamon); Plasma Neurotransmitter Elevation (Phenylalanine/Tyrosine); Thyroid Modulation (Fucus Vesiculosus); Anti-Depression (Eleutherococcus Senticosus); Controlled Laxation (Frangula Purshiana)

Competitive Analysis. Emphasis on myostatin-inhibition and metabolic regulation through naturally-derived biologics is considered a novel approach because treating obesity or managing weight by most pharmacologic approaches has been limited. Weight management supplements only work for a specific time, if the habitual, psychological and physical factors are not fully addressed. A holistic assessment on lifestyle and diet choices, level of daily physical activities and health conditions should be of primary importance, followed by the overall support of a scientifically rooted weight management supplement. Current therapeutic options target lipase inhibitors to regulate dietary fat uptake and appetite suppressants that are made up of neurostimulants/sympathomimetic amine. Long term risks include: habit-formation (phendimetrazine), gallbladder and kidney stones, colonic lesions, liver damage (orlistat), malabsorption (orlistat) and cardiovascular disorders (qysmia). In order to circumvent metabolic adaptations that make weight loss difficult, a holistic approach - like MYOPEP - that addresses biological, metabolic and environmental factors is necessary for effective weight management.

Precaution.

Use in children under 12 years is not recommended. Prolonged use may cause serious bowel problems. Do not use when abdominal pain, nausea or vomiting are present, or if diarrhea occurs. If symptoms persist consult your healthcare practitioner. If you are pregnant or breast feeding or have hyperthyroidism, seek the advice of a healthcare professional before taking MYOPEP.

This product contains 50mg of caffeine, and colostrum powder that may contain lactose.

Storage.

Store in cool and dry condition.

For Additional Information, Enquiries or Updates, visit the website myopep.lab-rms.com or contact info@lab-rms.com.

¹⁰ Kennedy DO, Haskell CF, Robertson B, Reay J, Brewster-Maund C, Luedemann J, Maggini S, Ruf M, Zangar A, Scholey AB. Improved cognitive performance and mental fatigue following a multi-vitamin and mineral supplement with added guarana (Paullinia cupana). *Appetite*. Mar-May 2008;50(2-3):506-513.

¹¹ Small, Ernest; Caitling, Paul M.; National Research Council Canada (1999). *Canadian Medicinal Crops*. NRC Research Press, P. 130. ISBN 9780660175348.

¹² Ballinger AB, Clark ML. L-phenylalanine releases cholecystokinin (CCK) and is associated with reduced food intake in humans: evidence for a physiological role of CCK in control of eating. *Metabolism*. 1994 Jun;43(6):735-8. PubMed PMID: 8201963.

¹³ Rasmussen DD, Ishizuka B, Quigley ME, Yen SS (1983). "Effects of tyrosine and tryptophan ingestion on plasma catecholamine and 3,4-dihydroxyphenylacetic acid concentrations". *J. Clin. Endocrinol. Metab*. 57 (4): 760-3.