



THE SCIENCE BEHIND BLADE PM™

How to Burn Fat While You Sleep

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THE SCIENCE BEHIND BLADE PM™

Most supplement fat burners are stimulant-based and can only be taken in the morning and early afternoon. Stimulants are effective at increasing metabolic rate, promoting thermogenesis, and increasing the willingness to be active. However, fat burning does not only occur during the day time. In fact, long periods of fasting are where fat metabolism needs to be predominant. Periods such as sleep is such a time where the bulk energy to keep alive is from fat metabolism rather than any other fuel source. Blade PM™ harnesses this concept to exploit the process of fat burning during sleep to make it work more in your favor.

You may notice that you are at your lightest and leanest first thing when you wake up in the morning. This is because although you have not been physically active, your body has been metabolically active while you have been unconscious. A milieu of hormones and chemicals are surging through your body over the course of your slumber each for their own function burning through as much as 85% of your conscious basal energy expenditure. This seems counterintuitive considering the prolonged state of physical inactivity. Glucose utilization is highest during a wakeful state but the lowest during deep sleep.

During a good quality sleep, several things are working in your favor. Your body is dependent primarily on metabolizing fat for at least eight hours which is a large proportion of a 24-hour day to be focused on burning fat. During that time, you are not cheating on your diet, you're not tempted by unhealthy treats, or even being consumed by life's stressors. It's a time of pure energy expenditure without any calorie intake. When your body is in this prime fat burning mode, it's time to take advantage of it!

Blade PM™ is a night-time product designed to be consumed at least one hour before sleep to give you three distinct benefits. 1) Appetite suppression to reduce late night cravings to initiate a fasting phase earlier in the evening to enhance fat metabolism during sleep. 2) Sleep quality enhancement to further potentiate the natural opportunity to burn fat throughout the night, and the following day. 3) A non-stimulant boost of the fat burning pathways that are already turned on during sleep to maximize the amount of fat loss you can achieve in a given night. This makes Blade PM™ the only three-stage night time fat burner focusing on all aspects of fat loss while you sleep

Metabolic Boosting Blend

During sleep, fat metabolism is prominent without the stimulation of the CNS. Blade PM™ takes advantage of this aspect with the inclusion of chlorogenic acid, Coleus forskohlii, and black ginger.

Chlorogenic acid is a major constituent of green coffee extract that has significant fat burning characteristics. Recent evidence suggests that chlorogenic acid activates fat metabolism in the liver,

reduces lipogenesis and suppresses body fat accumulation in a non-stimulatory fashion. In a study of overweight adults, 700 mg of decaffeinated green coffee extract containing 50% chlorogenic acid was associated with reductions in bodyweight, BMI, and percent body fat. Blade PM™ uses the same decaffeinated ingredient with 50% chlorogenic acid for this fat burning purpose.

Coleus Forskohlii

Coleus Forskohlii is another perfect non-stimulant fat burner especially due to its inverse effects with caffeine. For this reason, *C. forskohlii* should only be used at night with other relaxants rather than stimulants. Known as Indian Coleus, the active constituent in *C. forskohlii* is called forskolin which has been shown to induce lipolysis in fat cells. At a dose of 250 mg for 12 weeks Coleus forskohlii was shown to significantly improve fat loss in overweight men. It is also great for men due to its propensity to also aid testosterone production during sleep.

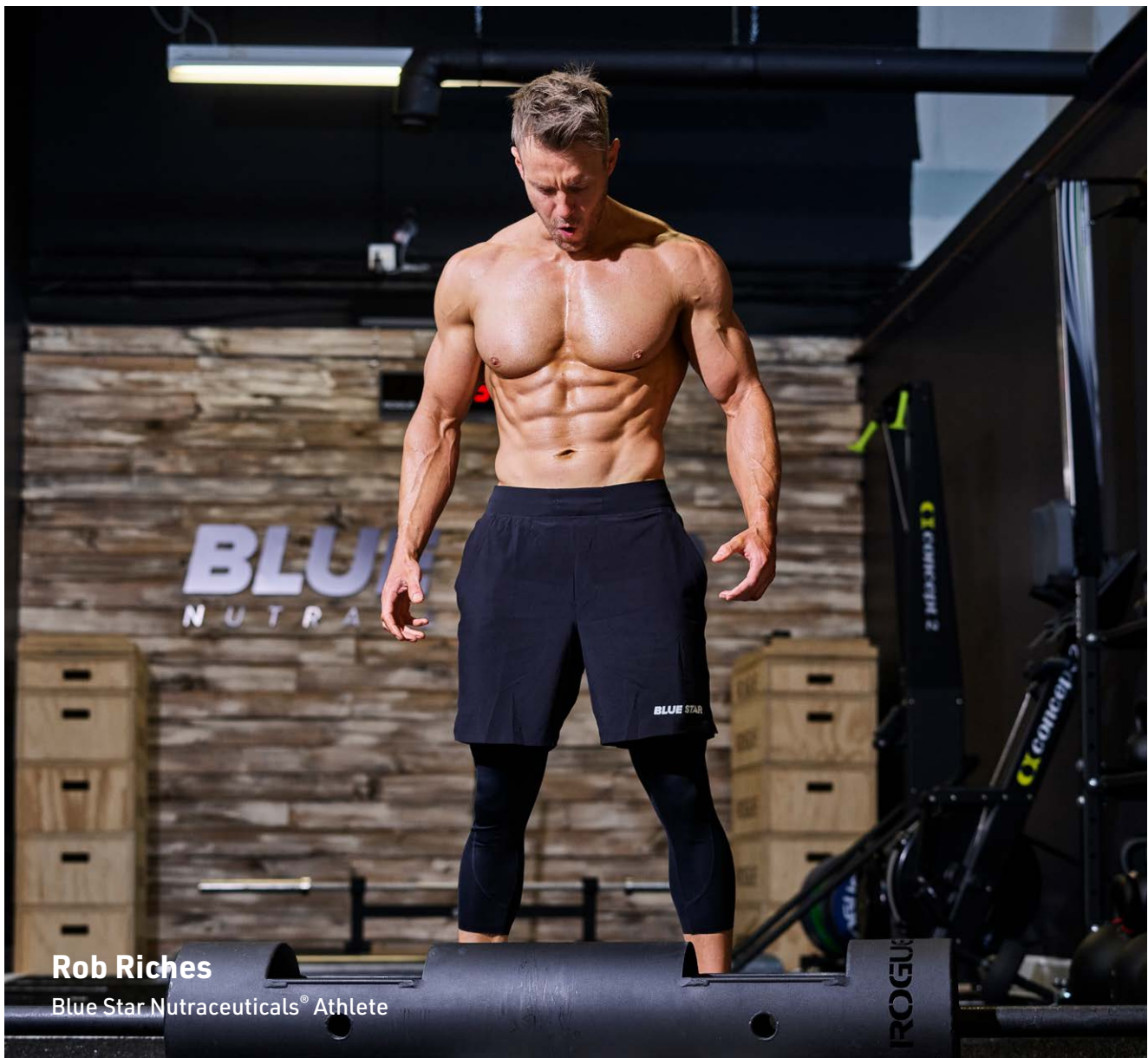
YOU SHOULD KNOW

Prolonged periods of fasting are when fat metabolism needs to be most prevalent. When you're asleep the energy your body uses to stay alive comes from fat metabolism more so than any other fuel source. Blade PM™ acts on this concept and exploits the process of fat burning while you sleep to make the absolute most of your uninterrupted night-time hours.

Kaempferia Parviflora

Kaempferia Parviflora is the secret sauce to Blade PM™. As a lesser known anti-obesity agent, *K. parviflora* has been tested in animals and humans for its fat burning effects. *K. parviflora* is also known as black ginger in Thailand and is known to exhibit a plethora of health benefits. *K. parviflora* extract (KPE) reportedly suppresses body weight increases, body fat accumulation and glucose intolerance. Oral intake of KPE increases energy expenditure and fat utilization in a stimulant-free mechanism. A 2015 research study in humans found that 100 mg of KPE increased brown adipose tissue activation and increased energy expenditure at 30-, 60- and 90-minutes post ingestion. Other human KPE studies have shown a reduction in bodyweight, and specifically decreases in fat size, volume and mass. KPE has showed up to a 38.7% decrease in adipocyte size, up to a 27.3% decrease in fat volume and up to a 46.4% decrease in fat mass without any change in food intake, The active constituent of KPE is thought to be 5,7-dimethoxyflavone (DMF). Mechanistically, researchers have observed an activation of AMPK activity. This non-stimulatory pathway activates a cascade of events that enhances beta-oxidation and restricts fatty acid synthesis. Furthermore, KPE reduces the expression of adipogenic transcription factors to

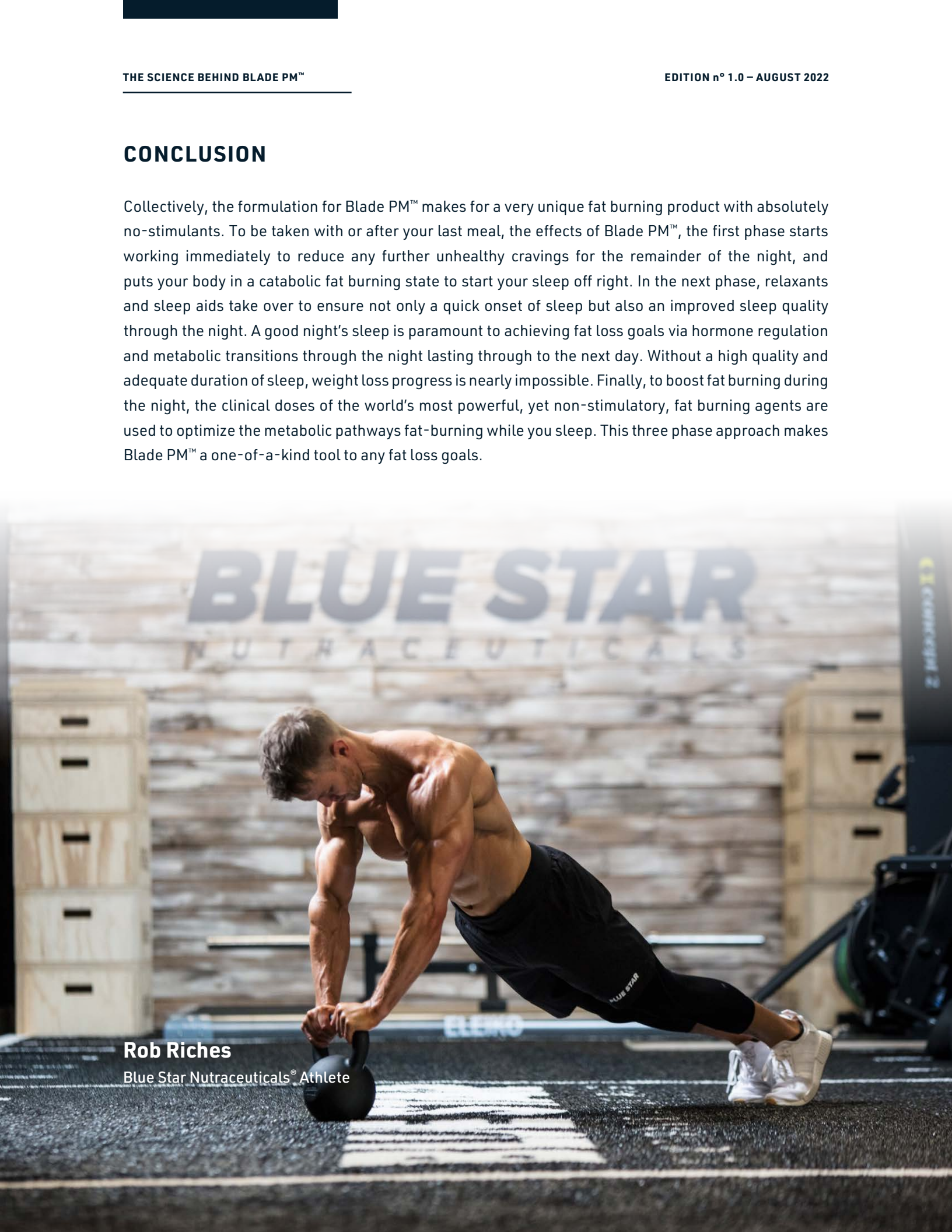
reduce fat production. During exercise, the bulk of the energy may come from any ratio of carbohydrate and fat metabolism, dependent on many factors. However, a significant portion of the energy expenditure unavoidably comes from the oxidation of certain amino acids. Skeletal muscle can directly oxidize the branched chain amino acids (BCAAs; leucine, isoleucine, and valine) for the production of energy. Unfortunately, muscle cells only maintain a small pool of free BCAAs for this purpose, which can be rapidly depleted during exercise. Therefore, as amino acids are being oxidized during exercise, muscle proteins are consistently being broken down to sustain the intracellular amino acid concentration. Consequently, the longer exercise lasts, the more muscle protein gets broken down which leads to muscle loss during exercise.



Rob Riches
Blue Star Nutraceuticals® Athlete

CONCLUSION

Collectively, the formulation for Blade PM™ makes for a very unique fat burning product with absolutely no-stimulants. To be taken with or after your last meal, the effects of Blade PM™, the first phase starts working immediately to reduce any further unhealthy cravings for the remainder of the night, and puts your body in a catabolic fat burning state to start your sleep off right. In the next phase, relaxants and sleep aids take over to ensure not only a quick onset of sleep but also an improved sleep quality through the night. A good night's sleep is paramount to achieving fat loss goals via hormone regulation and metabolic transitions through the night lasting through to the next day. Without a high quality and adequate duration of sleep, weight loss progress is nearly impossible. Finally, to boost fat burning during the night, the clinical doses of the world's most powerful, yet non-stimulatory, fat burning agents are used to optimize the metabolic pathways fat-burning while you sleep. This three phase approach makes Blade PM™ a one-of-a-kind tool to any fat loss goals.



Rob Riches
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Dr. David Gundermann is an award winning nutritional product development scientist, clinical researcher, and known expert in muscle health and metabolism. He developed his passion for health & fitness at a very early age growing up in a family of accomplished competitive athletes.

As Director of Research and Development at Blue Star Nutraceuticals®, he leads all efforts concerning product formulation, key ingredient research, flavor science, long-term scientific assessment, and proprietary development.

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