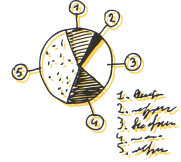




NO PROOF



NO PRODUCT



By Blue Star Nutraceuticals®

Only a fully trained scientist with years of clinical experience can translate research to make an accurate distinction between proof and false promises – so that’s exactly who Blue Star Nutraceuticals® employs for product development.

Our objective at Blue Star Nutraceuticals® is to create the most effective supplements in the world and to always share everything we know openly and transparently with every one of our customers. We provide entire breakdowns of each product to show you exactly how every ingredient works in your body so that you can see for yourself how we compare to other brands. You won’t find this level of transparency anywhere else. But you don’t have to take our word for it, you can see the evidence for yourself.

At Blue Star Nutraceuticals®, science always matters. Our particular approach to product development allows us to offer you a particular approach to personal development. We help you evaluate your own health and fitness, provide you with validated scientific evidence, then let you choose where and how you want to improve.

The Priority of Trust

Science is the universal constant. Simply knowing that the products you’re taking are proven by fundamental laws is a confidence booster in itself. You don’t have to be a scientist to appreciate that. However, if you are the type of person who is looking for a peek behind the curtain, welcome! We provide scientific whitepapers, written by our Director of Research and Development, for every product we make. These papers are openly available at any time and are free of charge on our website. It’s in these papers where you’ll learn how we go from molecular mechanism to clinical outcome, challenging each individual ingredient at every stage with painstaking detail. We really do take our commitment to transparency that seriously.





Our Research Process



Each ingredient comes from research published in peer reviewed journals from credible universities. However, being published in a journal is not simply enough. Our scientists endlessly adjudicate each research study for quality of the study, chosen methods, and accuracy of conclusion. Many studies on ingredients are funded by the ingredient companies themselves and thus may have a bias when it comes to drawing conclusions based on the research data. This doesn't necessarily mean that the study is invalid, but it does mean that they need to be precisely judged to be interpreted correctly. By analyzing what types of research questions were being investigated, evaluating if the methods are appropriately selected, and grasping a complete understanding of the research data, our R&D team can cut through the biases and validate the research ourselves.

Each ingredient needs to have a proven mechanism of action. We do not select ingredients based on anecdotal data, testimonials, or whatever popular TV doctor recommends. The conception of every new product always starts with a mechanism. This process requires the understanding of some of the basic sciences such as cell biology and molecular physiology. Good quality research that demonstrates a solid foundational mechanism of action is typically conducted in either animal experiments or cell culture research. For this reason, we use trained molecular biologists to decipher this body of literature to identify the ingredients that best support the functions we are looking for on a mechanistic level.

Finally, every product needs to have ingredients that not only fulfill our mechanistic criteria but also elicit real functional benefits. For this criteria, we search through the clinical literature to find studies that show real functional outcomes from specific ingredients. Using this literature we can determine what the real-life and realistic effects the ingredient can have along with any other potential effects. This data can also determine the effective dose, the target population, and the appropriate method in which it needs to be consumed, all of which is needed in the final formulation.

Opposite: An over simplified representative schematic of the typical types of research-backed mechanisms that go into each of our products. Each ingredient contributes to a larger functional picture of how each product works.

Step 1: CH-19 Sweet Pepper activates TRPV1 channels which activate calcineurin which inhibits the expression of adipogenic transcription factors PPAR γ and C/EBP β . Collectively, these reduce the replication of fat cells.

Step 2: Green tea extract inhibits acetyl-CoA carboxylase which is a regulator for fatty acid synthesis via fatty acid synthase. CH-19 Sweet Pepper assists with inhibiting fatty acid synthase. Reducing fatty acid synthesis restricts fat cell volume.

Step 3: Green Tea Extract contains a flavonoid called EGCG that inhibits the enzyme that degrades Norepinephrine (N.E.) called COMT. This allows N.E. to remain elevated for 24 hours.

Step 4: Caffeine antagonizes adenosine receptors in the brain which acts on $\alpha 1$ receptors which reduces N.E. levels. Antagonizing this pathway leads to an overall increase in N.E.

Step 7: Acetyl L-Carnitine assists with the transport of free fatty acids into mitochondria found in muscle to be burned as energy.

Step 5: Yohimbine antagonizes receptors that suppresses the release of N.E. leading to a 178% increase in N.E. in 60 minutes.

Step 6: Elevated N.E. levels bind fat cells at a β -receptor. This leads to the activation of adenylate cyclase, subsequently, cyclic adenosine monophosphate and leading to the activation of hormone sensitive lipase. This results in the breakdown of triglycerides into free fatty acids.



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FAS

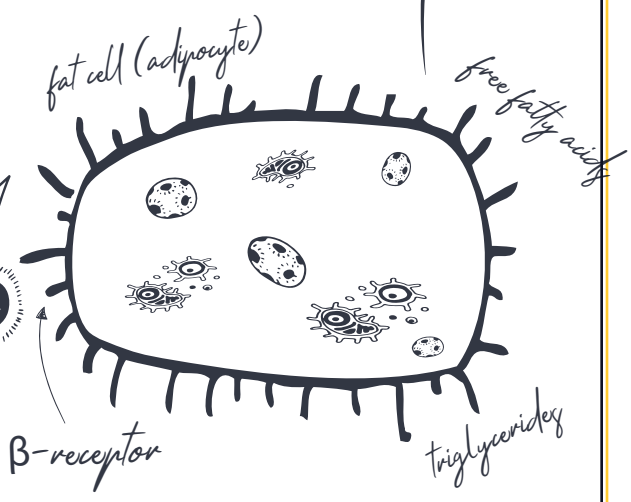
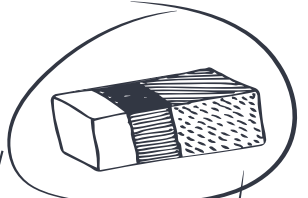
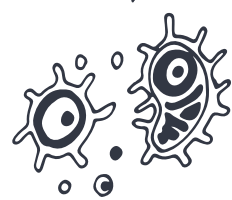
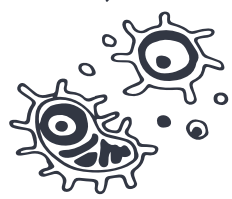
TRPV1 Channels
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Calcineurin



PPAR γ C/EBP β

fatty acid synthesis

Adipogenesis



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Maximizing Growth While You Sleep The Science Behind GH Peak

Sc., Ph.D.
Nutraceuticals

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David M. G.
Chief Scientist*

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The Solution to the Struggle of Fat Loss: The Science Behind Blade

David M. Gundermann, M.Sc., Ph.D.
Chief Scientific Officer, Blue Star Nutraceuticals

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David M. Gundermann, M.Sc., Ph.D.
Chief Scientific Officer, Blue Star Nutraceuticals

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The Truth about Protein Supplementation: The Science Behind Iso-Smooth

David M. Gundermann, M.Sc., Ph.D.
Chief Scientific Officer, Blue Star Nutraceuticals

Committed to 100% Transparency

Blue Star Nutraceuticals® white papers are openly available at any time and are free of charge on our website. It's in these papers where you'll learn how we go from molecular mechanism to clinical outcome, challenging each individual ingredient at every stage with painstaking detail. We really do take our commitment to transparency that seriously.



Quite possibly the most perfect thing about a relentless commitment to proof and product is that it removes all doubt for the end user.



Many supplement brands don't employ any research and development strategy, let alone house an entire department. But to be exceptional, you must be the exception. Look at the market and you may notice that at any given time a handful of brand new products have arrived touting trendy new ingredients with sensational claims. All too often these ingredients completely lack even the most basic validations to make the cut at Blue Star Nutraceuticals®. Only a fully trained scientist with years of clinical experience can translate research to make an accurate distinction between proof and false promises – so that's exactly who we employ in our research and development department.

Our Development Process

Quality checkpoints occur at every stage of the development process so that you can be absolutely certain that when you purchase Blue Star Nutraceuticals® you're getting a functionally superior, research-studied product produced at the highest manufacturing standards with fully transparent labelling, predictable consistency, and supporting research. Even after passing FDA standardized testing we, on our own account, submit every product batch to further third party inspection for consistency, quality, and content.

The People Behind the Products

Blue Star Nutraceuticals® employees are athletes, academics, engineers, and scientists. Professionally, they are among the most respected in their fields. Personally, their commitment to human health and fitness is inspirational. In the research and development department, there is no

branch of biological science untouched: biomedical, human performance, exercise physiology, nutrition, metabolism, human muscle development, and the list goes on. This diverse academic background not only makes Blue Star Nutraceuticals® one of the most educated supplement companies in the world, it makes it one of the most scientifically progressive as well. Everyday, Blue Star Nutraceuticals® employees put themselves in the minds of athletes and everyday people who aren't scientific experts in order to give them the results they desire and deserve.

Better by Design™

Quite possibly the most perfect thing about a relentless commitment to proof and product is that it removes all doubt for the end user. Choosing Blue Star Nutraceuticals® means skipping any other guesswork that often comes with other brands. The scientific side of sports nutrition can, and should be, a complicated, ever-changing, and highly debated field. But we believe that the consumer side should be effortless. Short of physically lifting the weights for you, we're committed to doing whatever it takes to give you research-proven products that you're as proud to use as we are to make.

So far, this commitment has resulted in widespread critical acclaim, devoted users who have transformed their lives, and numerous awards and accolades from the scientific community. If something isn't backed by science, what is it backed by? Guesses? Feelings? Or worst of all, opinion? Those might be reasons enough for some companies to put their products on the shelf, but not us. And in the true spirit of our commitment to transparency, we'll happily share that with you.



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About The Author

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.

Dr. David Gundermann, PhD, MSc