

Introducing BIOLOGIC'S Latest
Patented Technology:

CURCUMERONE™



BIOLOGIC® 
pharmamedical
research + manufacturing
NATURAL LIFE-CHANGING SOLUTIONS

CURCUMERONE™

CURCUMERONE™ is the coupling of our uniquely extracted, balanced and standardised Turmerone fraction to curcumin extract 95% or our patented Curcumin BioBDMC™

It can combine the biological benefits of a uniquely extracted, balanced and standardised Turmerone fraction coupled to Curcumin BioBDMC™ 30, the world's most potent curcumin anti-inflammatory agent . The presence of a balanced turmerone extract positively affects the absorption of curcumin while also contributing additional health preserving activity of its own.

Curcumin is known to exhibit antioxidant, antimicrobial, anti-inflammatory, antirheumatic, immunomodulatory, and anti-tumor effects as our previous research and other independent research demonstrates. Our patented Curcumin BioBDMC™ is shown in our published research to deliver unique additive activity that regular curcumin cannot deliver.



CURCUMERONE™

As an additional active the Turmerone fraction, a major constituent of the whole turmeric plant, as well, is biologically active with research including that at Biologic showing anti-inflammatory, antioxidant, anti-tumor, and anti-nociceptive activities. The challenge is that the whole turmeric plant can be comprised of both curcumin and turmerone fractions but only has as much as 5-6% curcuminoid concentration voiding the full potential of the formidable curcuminoid fraction let alone the bisdemethoxycurcumin potential discovered at Biologic (BDMC) which is next to zero in the regular curcumin 95% extract or whole turmeric plant.

Curcumin coexists with these turmerones in the rhizome of *Curcuma longa* L. but unless these fractions are each optimised to a higher concentration and then to our unique BioBDMC curcuminoid proportion (30%) the benefits of both fractions are not possible to harness.

Although our research shows Curcumin BioBDMC™ does NOT need bioavailability optimisation or additive activity as research and market reported results demonstrate formidable pharmacology; the addition of our carefully balanced Turmerones, a secondary Turmeric fraction brings with it new additive synergistic activity we are pleased to include. The concentrated level of activity we engineer into this strategy cannot possibly exist in whole turmeric herb which comprises miniscule amounts if curcumin and turmerones per gram of whole turmeric inherently.

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CURCUMERONE™ represents the next level curcumin engineering maintaining the pharmacology of bisdemethoxycurcumin MSK1 management and the NF-k-B inhibition by the other curcuminoids; but also now coupling to this activity the additive value of turmerones to FURTHER optimise curcuminoid absorption and activity. As our Biologic and even independent research shows, “this approach can result in higher therapeutic efficacy with a low dose or higher drug content of curcumin”.., including Curcumin BioBDMC™ in formulations. In previous studies, it was shown that together with turmerones absorption of curcumin was significantly higher than curcumin without turmerones.



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Reminder of the formidable Curcumin BioBDMC™ activity:

a patented technology delivered by a novel research-supported mechanism that is recently peer-reviewed and published. Curcumin extracts typically deliver a curcuminoid proportion as: diferuloylmethane (curcumin I) 75–80%; demethoxycurcumin (DMC – curcumin II) 9-12%; and bisdemethoxycurcumin (BDMC – curcumin III) 0.2–3%. Regular curcumin extracts (even the 95% variation) maximally delivers 3% of this BDMC activity and therefore cannot inhibit a key protein (MSK1) that regulates inflammatory cytokine transcription (generation). The patented Curcumin BioBDMC30™ is engineered to deliver a minimum 30% concentration of these MSK1-inhibiting curcuminoids. Health Canada-approved claims for the Canadian market: Relief from pain, swelling, and other common ailments associated with inflammation.

Curcumin BioBDMC™ can now be taken to the next level:

The CURCUMERONE™ RESEARCH AND PATENT CONVEYS THAT CURCUMERONE™ can be engineered as the turmerone fraction coupled to regular curcumin 95% extract. BUT CURCUMERONE™ can also be coupled to BioBDMC™ to take Curcumin BioBDMC™ to the next level.

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NEW PATENT! Curcumin can now be taken to the next level: CURCUMERONE™!

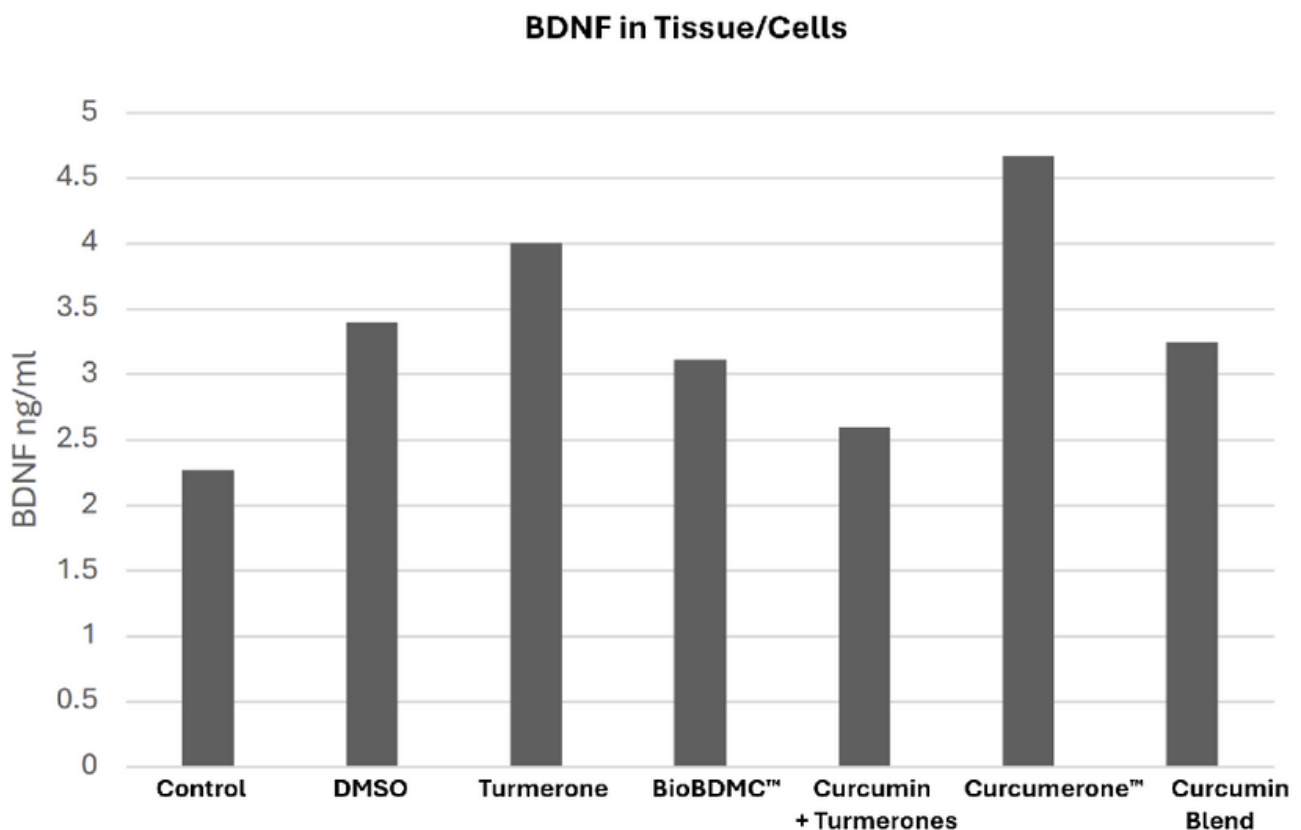
CURCUMERONE™ is the coupling of our uniquely extracted, balanced and standardised Turmerone fraction to curcumin extract 95% or our patented Curcumin BioBDMC™.

Turmerone is a major active ingredient found in the whole turmeric plant, known for its anti-inflammatory, antioxidant, anti-tumor, and anti-nociceptive activities. However, the whole turmeric plant only contains a small amount of tumerones. In addition the tumeric plants also contains a small about of curcuminoids (3-6%) voiding the full potential of both the tumerone and curcuminoid fractions, including the powerful bisdemethoxycurcumin (BDMC) potential discovered at Biologic.

With Curcumerone™, we have optimized the concentration of both turmerone and curcumin BioBDMC™ to deliver the maximum health benefits b y complexing the two. The balanced turmerone extract also positively affects the absorption of curcumin, allowing for higher therapeutic efficacy with a low dose or higher drug content of curcumin.

CURCUMERONE™

Here are some of our laboratory results... pointing to monumental support of brain health.



All Brain Derived Neurotrophic Factor (BDNF) expression results were normalized to total protein levels for each sample and performed in triplicate. As summarized in Figure 1, the results demonstrated a significant increase in BDNF expression levels compared to both controls following treatment with Curcumerone™. Notably, Curcumerone™ displayed elevated

BDNF expression levels compared to turmerone alone, BDMC30 alone or other curcumin-based blends.

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BDNF plays a central role in brain health. Can elevated levels of BDNF support better brain health and help combat the pathology of brain diseases?

“Brain-derived neurotrophic factor (BDNF) is an important member of the classic neurotrophin family of growth factors, along with nerve growth factor, and neurotrophins. It regulates neuronal survival, differentiation, and plasticity by activating the receptor tyrosine kinase TrkB and p75 low-affinity neurotrophin receptor (Huang and Reichardt, 2001, Poo, 2001). Reduced BDNF signaling leads to impaired spatial memory (Minichiello et al., 1999, Saarelainen et al., 2000, Minichiello, 2009).

...These properties of BDNF have led to speculations about its role in Alzheimer’s disease (AD) where synaptic and neuronal loss and impaired memory constitute an essential part of the pathology. “

1) <https://www.sciencedirect.com/science/article/abs/pii/S0969996116301024>

Let us formulate your own
customised version of this ultra anti-
inflammatory using CURCUMERONE™
as a driving ingredient for results.



Biologic Research

Are you looking for new opportunities to expand your product line and stay ahead of the competition?

Look no further than Biologic Pharmamedical!

As a leading research and development company, Biologic specializes in manufacturing consumer therapeutics and performance-enhancing products utilizing patented technologies from Cavaleri Health Inc. Our research services include drug and nutraceutical discovery research on proteomic and genomic targets, research and development of novel therapeutics and medicines, and management of a related portfolio of patented ingredients to manufacture finished therapies by contract.

With over 40 years of experience in the nutraceutical industry, Biologic is a reliable and committed partner in the natural health industry wedded to allopathic pharmaceutical research protocols to validate and optimise these natural therapies. Our ongoing pharmaceutical research using nutraceutical fractions in our laboratories on existing and new technologies continues to evolve and add data to the marketing message for each technology you commit to. We simply continue to add new value and refresh science for your brand to leverage on an ongoing basis.

Moreover, much of our research is published in the public medical sciences literature for scientific referencing by brands and other researchers, ensuring that your products have the scientific backing they need to stand out in the marketplace. Additionally, these novel research discoveries set the stage for patent status to protect your new inflection point in the chosen category.

Partner with Biologic Pharmamedical today and gain access to cutting-edge technologies with a trend-setting narrative supported by real science and an ongoing research program that will take your brand to the next level!

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Biologic Custom Manufacturing

Along with our natural patented technologies, we provide comprehensive custom manufacturing services through every stage of development, from R&D to marketing and sales:

- Supply unique technical patented ingredients
- Peer-reviewed published research for referencing
- Research and custom formulation for your specific product and brand needs.
- We procure other specialized ingredients and flavorings as needed
- Coordinate with our own manufacturing team
- Ensure stringent quality control throughout every phase.
- Assistance with NPN and Health Canada requirements; and FDA compliance
- Detailed review of labeling and packaging specifications.
- Cost breakdown/estimation/pricing
- Assist with branding communications.
- Live/video training sessions with our chief science formulator for your group
- Marketing planning, and ongoing fulfillment services.
- Remote video training with marketing material support to ensure your brand's success.

At **Biologic Pharmamedical**, our goal is to help you position yourself as a product leader in the supplement industry. Contact us today to learn more about our custom manufacturing services and how we can help your brand deliver proven and optimal results to your customers.

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