

# THERACURMIN® HP

## THE THERACURMIN® ADVANTAGE

Theracurmin® is a novel preparation of turmeric that utilizes patented, colloidal dispersion technology to enhance bioavailability and dramatically increase curcumin levels in the blood.\*<sup>1</sup>

Unlike other forms of curcumin, Theracurmin® is water-dispersible, thereby improving curcumin's overall absorption.

## THERACURMIN® IS OVER 27 TIMES MORE BIOAVAILABLE THAN STANDARD CURCUMIN EXTRACTS.\*

Standard curcumin is poorly absorbed even at high doses. Human clinical trials show that Theracurmin® is over 27 times more bioavailable than a standard curcumin extract and is many times more bioavailable than other commercially-available curcumin supplements.\*<sup>1,2</sup> Theracurmin® has been clinically shown to support detoxification pathways, healthy cardiovascular function, muscle recovery after acute exercise and provide relief of minor pain due to occasional overuse.\*<sup>1,3-5</sup>

## BENEFITS OF THERACURMIN®

The benefits of Theracurmin® have been demonstrated in several clinical studies. Theracurmin® has been shown to:

### SUPPORT LIVER DETOXIFICATION PATHWAYS\*

In a small placebo-controlled crossover study evaluating the effect of Theracurmin® on liver function, healthy subjects (N=7) were given either a single oral administration of 30 mg of Theracurmin® or placebo along with alcohol on alternating days.<sup>1</sup> Theracurmin® reduced blood acetaldehyde concentrations after compared to placebo, supporting a liver detoxification effect of Theracurmin®.\*

### SUPPORT HEALTHY CARDIOVASCULAR FUNCTION\*

In a three-arm clinical study evaluating flow-mediated dilation as an indicator of healthy endothelial function, healthy post-menopausal women (N=10-11 per group) were administered 150 mg/d Theracurmin®, an aerobic exercise regimen or no intervention (control).<sup>3</sup> Both 150 mg/d Theracurmin® and aerobic exercise groups had significantly increased flow-mediated dilation compared to the control group; there was no

significant difference between the Theracurmin® and aerobic exercise groups.\* This result indicates a role for Theracurmin® in supporting healthy cardiovascular function.\*

### SUPPORT MUSCLE RECOVERY AFTER ACUTE EXERCISE\*

In a small placebo-controlled crossover study evaluating the effect of Theracurmin® on muscle recovery, healthy, non-conditioned men (N=14) were administered either 150 mg Theracurmin® or placebo before and 12 hours after maximal biceps flexion exercise on alternating days.<sup>4</sup> Theracurmin® administration resulted in a smaller change in maximal voluntary muscle contraction (an indicator of muscle recovery) four days post-exercise compared to placebo.\* This result indicates a role for Theracurmin® in supporting muscle recovery after acute exercise.\*

### PROVIDE RELIEF OF MINOR PAIN DUE TO OCCASIONAL OVERUSE\*

In a double-blind, placebo-controlled study, subjects (N=25 per group) were given either 180 mg/d Theracurmin® or placebo.<sup>5</sup> Self-reported discomfort measured by Visual Analogue Scale was significantly reduced in subjects administered Theracurmin® compared to placebo.\* This result indicates a role for Theracurmin® in providing relief of minor pain due to occasional overuse.\*



#### REFERENCES

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\*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD & DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE.



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## BIOLOGICAL EFFECTS OF CURCUMIN

For over more than three decades, *in vitro* and *in vivo* research demonstrates that curcumin supports detoxification and cytokine pathways.<sup>6,7</sup> While mechanisms of action are still under with its phenolic hydroxyl group behaving as an electron donor.<sup>7</sup> Based on *in vitro* and *in vivo* studies, curcumin's indirect effects on antioxidant pathways include modulating cellular redox homeostasis and enhancing the activity of antioxidant enzymes like catalase, superoxide dismutase, glutathione peroxidase and glutathione-S-transferase, enzymes that also support detoxification and cytokine pathways.<sup>7</sup>

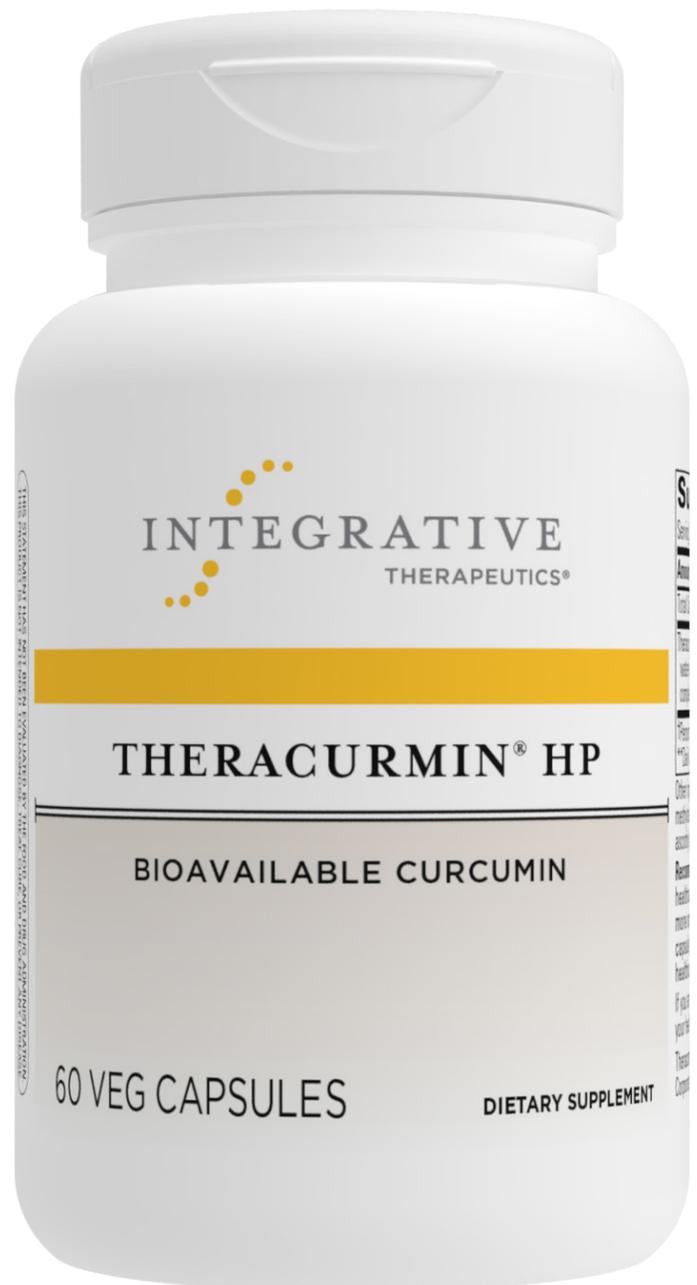
## BIOAVAILABILITY OF CURCUMIN

In spite of its broad spectrum of biological activities, the use of curcumin is challenging because of its chemical instability at intestinal pH levels, low water solubility, poor oral bioavailability, and rapid conjugation and excretion.<sup>8</sup> This combination of factors makes it difficult for orally administered curcumin to promote its bioactivities. The challenge, therefore, has been to find a way to improve curcumin's bioavailability. Several strategies have been utilized to improve curcumin bioavailability including the use of adjuvants (i.e., piperine from black pepper), maximizing the lipophilic nature of curcumin through use of liposomes, curcumin phospholipid complexes, and curcumin submicron and nanoparticles.<sup>9</sup>

## BIOAVAILABILITY OF THERACURMIN®

Theracurmin® is a novel turmeric preparation with significantly enhanced absorption and bioavailability demonstrated in humans and rats.<sup>1,2</sup> Finely milled turmeric is made into a colloid with glycerin and a vegetable gum called gum ghatti, which mainly consists of polysaccharides obtained from the sap of ghatti trees (*Anogeissus latifolia*).<sup>1</sup>

Theracurmin® is very light and heat stable, and has high dispersion and solubility in water.<sup>2</sup> Theracurmin® is 27 times more bioavailable in humans than standard curcumin and is many times more bioavailable than other commercially available curcumin supplements.\*<sup>1,2</sup>



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