

From the desk of Yibing Wang , M.d., ph.d.  
VEMMA CHIEF SCIENTIFIC OFFICER

Valued Vemma Brand Partner,

It's a great honour to have the Vemma immunity study and Vemma bioavailability study accepted for publication in two reputable journals, such as the *Journal of Medicinal Food* and *Journal of Agricultural and Food Chemistry*, respectively. Needless to say, we are thrilled to share this impressive news.

The studies you are about to read give credence to the countless positive testimonials Vemma has received from customers over the years on its ability to help overcome challenges, increase vitality, and enhance well-being.\*

The first study, led by Dr. Boxin Ou from Brunswick Laboratories in Massachusetts, entitled "Effect of a Mangosteen Dietary Supplement on Human Immune Function: A Randomized, Double-Blind, Placebo-Controlled Trial," examined C-reactive protein response and immune-regulatory response in the human body. This trial, which took place over the course of 30 days, involved 29 healthy men and 30 women aged 40 to 60. Subjects were randomly divided into two groups, the Vemma formula and a placebo, with about the same number of male and female participants in each group.

After baseline blood tests were completed, participants received a dose (2 oz/59 mL) of either the Vemma formula or an identical inactive placebo each morning before breakfast. Blood samples were collected from each subject on day zero and after 30 days of taking the product. The researchers were looking for changes in the blood relating to C-reactive protein and immunity. C-reactive protein is an important blood marker for optimal health - the higher the level, the lower the organism immunity.

Through blood analysis, researchers identified markers that enabled them to conclude that the consumption of the Vemma formula resulted in a significant decrease in C-reactive protein and a significant improvement in immune system function.\*

The icing on the cake was how participants responded to a survey at the end of the trial. All of the participants who had taken Vemma reported favourable results, most saying they felt a lot healthier.\*/\*\* The level of satisfaction was significantly lower in the placebo group.

The data and positive feedback obtained from this study confirms that consuming Vemma daily helps to strengthen the body's natural immune defence, which causes that people taking it maintain their vitality, and enhance overall quality of life.\*

The second study led by Dr. Boxin Ou from Brunswig Laboratories, entitled "Bioavailability and Antioxidant Effects of Xanthone-Rich Mangosteen (*Garcinia mangostana* L.) Product in Humans" was designed to determine the overall bioavailability (proportion that is absorbed and utilized by the body) and antioxidant effects of Vemma's formula in the human body. This trial, which took place over a 24-hour period of time, involved an equal number of generally healthy male and female subjects between 20 and 23 years of age. Subjects were randomly divided into two groups, placebo and the Vemma formula.

Before the products were consumed, each participant's blood was measured. After the blood tests were completed, participants received either a single dose (2 oz/59 mL) of the Vemma formula or an identical inactive placebo before breakfast. Blood samples were collected from each participant before and numerous times after taking the Vemma formula or placebo to track the presence of nutrients that would show a change in the antioxidant status of the blood. Antioxidants are known to scavenge free radicals (unstable oxygen molecules that can cause damage in the body) and thus help to keep the organism in good condition.

The noteworthy nutrients that showed up in the blood serum of the Vemma participants were Vitamins B<sub>2</sub>, B<sub>5</sub>, ORAC (antioxidant levels) and alpha-mangosteen, each reaching their maximum concentrations. ORAC materialized in the blood within one hour and maintained elevated saturation levels for six hours after intake, in the placebo group, no change in blood serum was observed. Based on these results, the researchers concluded that the Vemma product is highly bioavailable, consequently helping the organism maintain the correct form.\*

In conclusion, the results of these two trials couple with the overwhelming number of positive testimonies give the Vemma formula a powerful competitive edge.

To your good health  
Tyibing Wang, M.D., Ph. D.  
Vemma Chief Scientific Officer

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\* This product is not intended to diagnose, treat, cure or prevent any disease.

\*\* Results not typical. You may not do as well.

**Note:** The Chief Sanitary Inspector does not require nutritional supplement companies to conduct clinical trials on their products. Because Vemma is confident in its flagship Vemma formula, we elected to perform two clinical trials, conducted by the renowned 3rd-party, independent lab, Brunswick Laboratories. Making the tests does not affect qualification of the products as dietary supplements.

### **Effect of a Mangosteen Dietary Supplement on Human Immune Function A Randomized, Double-Blind, Placebo-Controlled Trial – excerpt**

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**ABSTRACT** The effect of a mangosteen product containing multivitamins and essential minerals was tested on immune function and well-being in healthy adults. A randomized, double blinded, placebo-controlled study was conducted in 59 healthy human subjects (40–60 years old). Changes from baseline immune function were measured after a 30-day consumption of the mangosteen product and the placebo. The subjects' self-appraisal of their health status was also surveyed. A xanthone-rich mangosteen product intake increased mean values for peripheral T-helper cell frequency (P<.020) and reduced the serum C-reactive protein concentration (P<.014). Increases in peripheral CD4=CD8 double-positive (DP) T-cell frequency and serum complement C3, C4, and interleukin (IL)-1a concentrations were significantly higher in the experimental group than in the placebo group (DP, P<.038; C3, P<.017; C4, P<.031; IL-1a, P<.006). At the end of study, serum IL-1a and IL-1b concentrations in the study group were significantly higher than that in the placebo group (IL-1a, P<.033; IL-1b, P<.04). The results show that the intake of an antioxidant-rich product significantly enhances immune responses.

**KEY WORDS:** \_ aloe vera \_ C-reactive protein \_ green tea \_ mangosteen \_ peripheral T-lymphocytes \_ T-helper cell \_ xanthone

#### **Immune Function**

**Results:** T Helper cell (Th cells), Interleukin -1 $\alpha$  (IL-1 $\alpha$ ), Complement 3 (C3), Complement 4 (C4), and C-Reactive Protein (CRP) all showed positive statistical significance in differences when compared to placebo after 30 days of Vemma consumption.

The increase in the percentage of the Th cells in the Vemma group was relatively greater than the control group. As a result, at the end of the study period, the percentage of Th cells in the Vemma group was statistically significantly higher than at the baseline.

#### **Changes in IL-1 a w concentration (immunity marker)**

This indicates a significant increase in immune markers.

At the end of the study period the IL-1 $\alpha$  level in the Vemma group was statistically significantly higher than the control group, implying that the IL-1 $\alpha$  level was increased by Vemma during the trial. This again shows a significant increase in immune markers.

The increases in serum C3 and C4 concentrations were statistically significantly higher in the Vemma group than in the control at the end of the trial. The C3 and C4 systems are involved in defence against microorganisms, the processing of immune complexes and apoptotic (resulting from cell death) debris, and the development of an appropriate immune response.

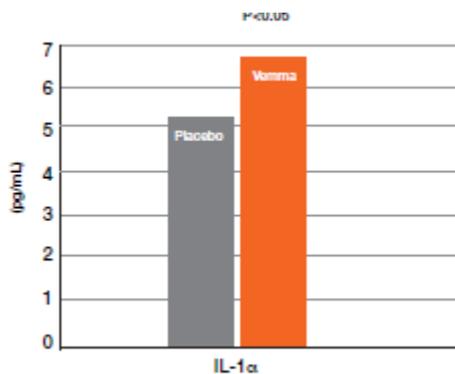
### C-reactive protein response

In the present study, in Vemma group, the C-Reactive Protein (CRP) value – in blood serum also decreased, suggesting that consumption of the Vemma

formula may be beneficial to the immunological system.

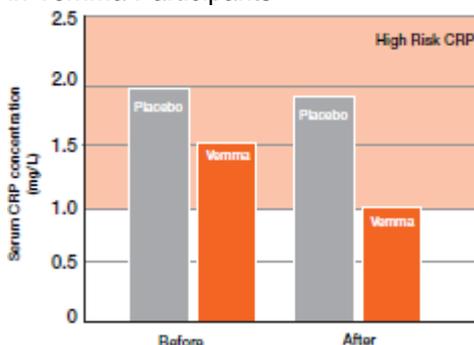
Serum CRP concentration decreased in a statistically significant way after consumption of the Vemma formula, whereas no significant change was observed in the control group.

Our results showed the CRP level will statistically and significantly decrease to a correct level for the participants in the Vemma group, while the placebo group the level remained virtually unchanged.



**The Vemma group showed a statistically significant improvement in s p immune function over the placebo group**

### C-Reactive Protein (CRP) Is Reduced in Vemma Participants

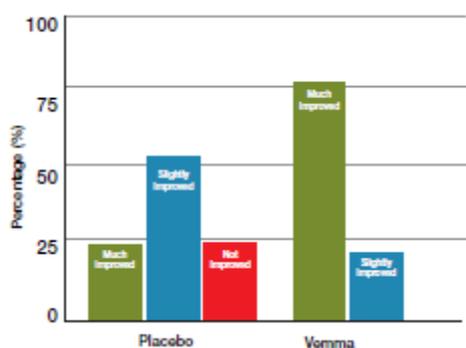


Grey shaded area indicates high risk range (<1mg/L) of CRP levels.

White area is low risk range of CRP levels.

The Vemma group was the only group to reduce its CRP levels from unhealthy to correct levels.

### Health condition according to the participants



100% of the Vemma group members reported that they felt positive influence on their general condition, significantly more than the control group.

Thirty (100%) of the subjects in the Vemma formula group reported that their general mood improved after taking the formula, significantly more so than the control group. Among those who reported improvement, only 7 (24%) in the placebo group reported that they feel “much improved”, significantly less than the 23 (77%) subjects in the Vemma formula group.

**Conclusions:** Our findings showed that consumption of the Vemma formula was beneficial to the subjects' overall health status, realizing a statistically significant increase in immune markers function and a statistically significant decrease in CRP. Further studies are needed to ascertain the long-term effect.