

*Supports Healthy Microbial Balance in the GI Tract*  
*Supports Healthy Immune Function*

# GASTROINTESTINAL SUPPORT

Formulated with the goal of supporting the gastrointestinal (GI) flora by promoting balanced immunity, the plant compounds in **J.6OF** also provide potent antioxidant support, to help fend off microbial challenges. The ingredients in **J.6OF** help to maintain a healthy GI environment by supplying botanicals shown to create a hostile environment for pathogenic microbes. Each capsule of **J.6OF** includes sweet wormwood (150 mg), olive leaf extract (100 mg), black walnut hulls (85 mg) and artemisinin (25 mg).

## Overview

Gastrointestinal health is directly affected by factors, such as exposure to microbes, poor diet and a stressful lifestyle, that can negatively impact immune function. The prevalence of refined sugars and carbohydrates and the low presence of fiber in the modern diet has been directly linked to the alteration of the colonic environment.<sup>1</sup> Since the body's immune system is a complex and dynamic defense system, healthy microbial balance and antioxidant support help ensure more optimal immune function. Maintaining healthy microbial balance is not only integral to optimal GI health, but also supports overall health and well-being. **J.6OF** provides a blend of plant compounds which work together to defend against microbial stressors.

## Wormwood/Artemisinin†

Wormwood is a fern-like plant commonly found throughout Asia, and artemisinin is its active constituent. Artemisinin is a sesquiterpene lactone, a special compound shown to have strong microbial-balancing properties. It is known to interfere with microbial metabolism by causing structural changes to unfriendly organisms that prevent them from maturing in the body. This

effect is facilitated by the production of free radicals and reactive aldehydes within the microbes that disrupt their growth.<sup>4,5</sup>

## Olive Leaf Extract†

Widely consumed in the Mediterranean, olives contain numerous phenolic compounds, including oleuropein, which have demonstrated broad spectrum microbial-balancing and antioxidant properties.<sup>2-5</sup> Oleuropein is a unique polyphenol molecule in olive leaf extract and special processing techniques now allow for the extraction of a stable, standardized form of oleuropein. Oleuropein is a potent antioxidant, supports microbial balance, and helps maintain a healthy cycle of inflammation in the body. Studies have indicated that oleuropein boosts host immune defense and it is especially helpful in supporting those with microbial challenges related to microbial imbalances in the intestines.<sup>3</sup> In one in vitro study, phenolic compounds from olive leaf, including oleuropein, were able to interfere the cellular metabolism of a wide range of microbes creating a hostile environment to their survival.<sup>8</sup> Another study found olive leaf extract prevents cell-to-cell attachment in a dose-dependent manner, a key mechanism in supporting healthy microbial balance.<sup>5</sup>

## Black Walnut†

The hulls of the black walnut have been used since Greek and Roman times to support those with intestinal complaints. Black walnut has compounds known as tannins, which affect the structural stability of various microbes. The activity (minimum inhibitory concentration) of four different tannin-containing plants was determined by broth dilution method, and black walnut was found to be the most active against various microbes.<sup>6</sup>

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

## Berberine Sulfate†

Berberine is an alkaloid extracted from plant roots that is commonly found in barberry, turmeric and Oregon grape. Berberine extracts have shown significant ability to influence the activity of a variety of organisms that affect human health.<sup>7-9</sup> In vitro, berberine has been found to promote GI health<sup>10</sup> and, among 25 patients, 5 mg/kg per day of berberine for six days promoted positive changes in the microbial samples of 17 patients. Mechanisms of action for berberine include effects on organism adhesion and intracellular interference, metabolic activity, maturation and free radical formation.<sup>9</sup> By addressing the intestinal secretion of water and electrolytes induced by certain organism toxins, berberine also supports the healthy formation of stool.<sup>6</sup> In this way, it promotes healthy intestinal motility and normal intestinal transit time. Both in vitro and animal research suggest berberine can also affect COX-2 protein, promoting a balanced cycle of inflammation.<sup>6</sup>

## Directions

1 capsule three times per day or as recommended by your health care professional.

## Does Not Contain

Gluten, yeast, artificial colors and flavors.

## Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Supplement Facts <sup>V3</sup>		
Serving Size 1 Capsule Servings Per Container 90		
1 capsule contains	Amount Per Serving	% Daily Value
Sweet Wormwood (Aerial Portion)	150 mg	*
Olive Leaf Extract (Standardized to contain 20% Oleuropein)	100 mg	*
Black Walnut Hulls	85 mg	*
Berberine Hydrochloride Hydrate	75 mg	*
Artemisinin	25 mg	*

\* Daily Value not established

## References

1. Frizelle F. Constipation in adults. *Clin Evod* (online). 2007;0413 (August 1).
2. Waterman, E. and Lockwood, B. Active components and clinical applications of olive oil. *Altern Med Rev*. 2007; 12(4):331-342.
3. Bisignano, G., Tomaino, A. et al. On the in-vitro antimicrobial activity of oleuropein and hydroxytyrosol. *J Pharm Pharmacol*. 1999; 51(8):971-974.
4. Sudjana, A. N., D'Orazio, C. et al. Antimicrobial activity of commercial *Olea europaea* (olive) leaf extract. *Int J Antimicrob Agents*. 2009; 33(5):461-463.
5. Micol V, Caturla N, Pérez-Fons L, Más V, Pérez L, Estepa A. The olive leaf extract exhibits antiviral activity against viral haemorrhagic septicaemia rhabdovirus (VHSV). *Antiviral Res*. 2005 Jun;66(2-3):129-36. Epub 2005 Apr 18.
6. Amarowicz, R., Dykes, G. A. et al. Antibacterial activity of tannin constituents from *Phaseolus vulgaris*, *Fagopyrum esculentum*, *Corylus avellana* and *Juglans nigra*. *Fitoterapia*. 2008; 79(3):217-219.
7. Vuddanda PR, Chakraborty S, Singh S. Berberine: a potential phytochemical with multispectrum therapeutic activities. *Expert Opin Investig Drugs*. 2010 Oct;19(10):1297-307. [PMID: 20836620].
8. Dhingra, V., Vishweshwar, Rao K. et al. Current status of artemisinin and its derivatives as antimalarial drugs. *Life Sci*. 2000; 66(4):279-300.
9. Pereira, A. P., Ferreira, I. C. et al. Phenolic compounds and antimicrobial activity of olive (*Olea europaea* L. Cv. Cobrancosa) leaves. *Molecules*. 2007; 12(5):1153-1162.
10. Krishna, S., Bustamante, L. et al. Artemisinins: their growing importance in medicine. *Trends Pharmacol Sci*. 2008; 29(10):520-527.