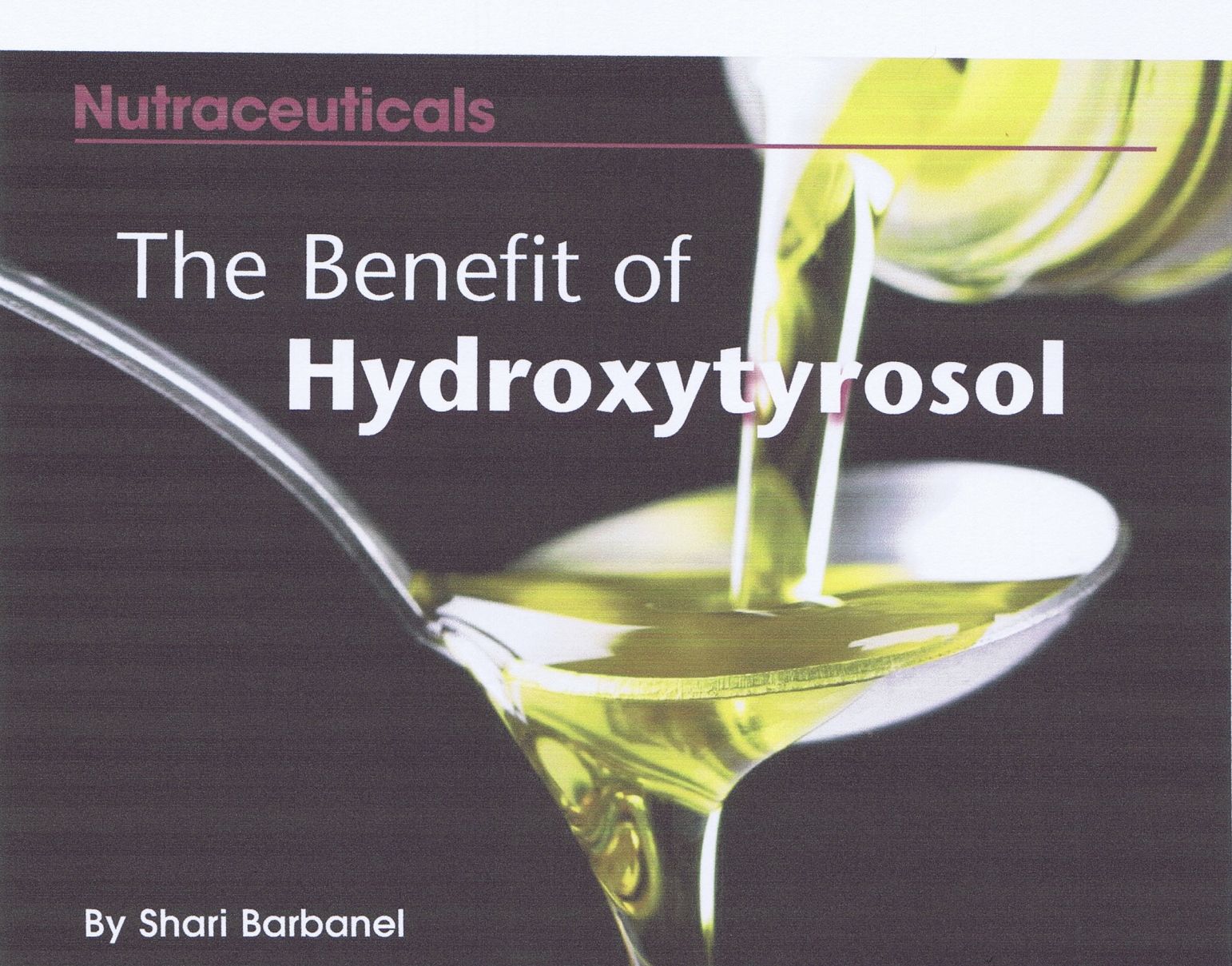


The Benefit of Hydroxytyrosol



By Shari Barbanel

Olive oil and its uses can be traced throughout history. The ancient Greek poet Homer called it "liquid gold," while

the father of modern medicine, Hippocrates, used it in a number of his medicines. And today, the olive oil-centered Mediterranean diet is touted for its ability to decrease the risk of stroke.

While the health benefits of olive oil have been known for some time, attention has been turned toward hydroxytyrosol, a phenylethanoid that is most commonly found in the olive leaf, pulps and olive oil, especially extra virgin olive oil. "Hydroxytyrosol is a phytochemical, a molecule of plant origins," said Paolo Pontoniere, vice president of corporate communications and Hidrox evangelist for California-based CreAgri, Inc. "To be more precise, [it] is a phenylethanoid, a kind of phenolic molecule with strong antioxidant and anti-inflammatory prop-

erties, as well as immunostimulant and antibiotic qualities. In nature, it is produced by the *Olea europaea* (olive) tree, and although dispersed throughout the plant, it is particularly abundant in the fruit of the tree."

ORAC & Beyond

Research has shown that hydroxytyrosol benefits a number of the body's systems and, according to Ashley Lopez, administrative assistant at California-based Certified Nutraceuticals, Inc., hydroxytyrosol's antioxidant property is the most powerful discovered to date. "Its oxygen radical absorbance capacity (ORAC) is 68,576 $\mu\text{molTe/g}$, which is considered to be 15 times higher than green tea, and three times higher than CoQ10."

Further, in 2011 the European Food Safety Authority (EFSA) issued a scientific opinion on health claims in relation to dietary consumption of hydroxytyrosol and related polyphenol compounds from olive fruit and oil and protection of

blood lipids from oxidative damage. "The panel concluded that a cause-and-effect relationship has been established between the consumption of olive oil polyphenols (standardized by the content of hydroxytyrosol and its derivatives) and protection of LDL particles from oxidative damage," the EFSA panel wrote.

In addition to its high antioxidant content, hydroxytyrosol provides many more benefits in the body. "It promotes heart health and DNA health protection; it helps to assimilate vitamins A, D and K," Lopez explained. "Hydroxytyrosol aids in coronary health support, it strengthens the immune system and acts as an antimicrobial agent. It contains essential acids that cannot be produced by our own bodies, and slows down the aging process. Hydroxytyrosol helps bile, liver and intestinal functions."

CreAgri manufactures Hidrox, a proprietary formulation of hydroxytyrosol.



The company offers various formulations, including liquid and freeze dried, ranging from .5 percent to 12 percent total polyphenols. According to Pontoniere, today, Hidrox is sold worldwide for applications ranging from food and beverages, to dietary supplements, skincare products and some botanicals.

"The main trends in relation to hydroxytyrosol, resulting from its antioxidant content activity, are for applications being developed in the food industry as a functional additive (oil, juice, milk), in cosmetics, specifically in anti-aging treatments, and new applications for the human health industry," explained David Auñón-Calles, director of research and development for Seprox BIOTECH S.L. in Spain.

Certified Nutraceuticals' hydroxytyrosol ingredient, Olea25 granule powder, contains a minimum of 25 percent hydroxytyrosol. Made from cultivated olive leaf, Olea25 is manufactured under GMP (good manufacturing practices) and ISO (International Organization for Standardization) certifications and the quality control system guarantees each item on the certificate of analysis and the traceability from raw material to final extract.

Olea25™

Hydroxytyrosol

In addition to its heart and cholesterol health benefits, research is showing that hydroxytyrosol may have a positive effect on brain health and can

have anti-diabetic effects. In a study published in 2010 in the journal *Pharmacological Research*, researchers from the University of Frankfurt exposed cells to oxidative stress after contact with the olive oil compound hydroxytyrosol. The results showed that hydroxytyrosol acted as a protective agent against the

oxidative stress. Further, the researchers found that the level of protection appeared to be directly related to the amount of the hydroxytyrosol compound the cells were exposed to.

And according to a study published in 2009 in the *Journal of Agricultural and Food Chemistry*, researchers found that the anti-diabetic effect of hydroxytyrosol and oleuropein may be due to the antioxidant activity of the substances.

Hydroxytyrosol benefits also extend to improving the health of the skin and hair. According to Dr. Nicholas Perricone, hydroxytyrosol can help slow down the skin's aging process by stabilizing the cell plasma membrane. And because it also prevents the oxidation of keratin protein, hydroxytyrosol also makes the hair soft, shiny and lustrous, and prevents nails from peeling and breaking.

"We developed an incredible skincare line to deliver the highest antioxidant through the skin dermis to help the skin produce more collagen, to treat aging brown spots and to protect the skin from aging," said Certified Nutraceuticals' Lopez.

Concerns

When it comes to ingredients, consumers may have some trepidation about the ones they don't know much about—if they are safe or if there can be any adverse reactions. Therefore ingredient suppliers and finished product manufacturers must address these fears by offering research and proof that the ingredient is safe.

Auñón-Calles noted that the main problems concerning hydroxytyrosol are its solubility, its stability and its bioavail-

ability from its natural source.

"Quality, traceability, GMPs, purity, efficacy, safety, natural [and] organic are some of consumers' main concerns," added Pontoniere. "We're pushing the industry to adopt stricter standards when it comes to research and testing, asking to ban dry-labbing, require GRAS (generally recognized as safe) certification, adoption of clear policies to report adverse event cases, recall protocols and consumer complaints."

As the market for hydroxytyrosol slowly continues to grow, it is up to ingredient suppliers and product manufacturers to spread the word and educate consumers on the ingredient's mul-

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titude of health benefits. According to Pontoniere, CreAgri plans to participate in trade shows, continue research and development, partner with universities and other research-driven companies, and educate the public via seminars, press releases, media interviews and web promotions.

"Hydroxytyrosol compound is the new buzz word and most people have not heard of it yet," concluded Lopez. "Our company is implementing a large educational ad campaign to educate formulators and consumers of the benefit of hydroxytyrosol around the globe." **NIE**

FORMOREINFORMATION:

- Certified Nutraceuticals, Inc., (951) 600-3899; (949) 455-9745
- CreAgri, Inc., (510) 732-6478
- Seprox BIOTECH S.L., +34 91 436 20 36