Hydroxytyrosol occupies a unique place among the healthy phytomolecules derived from fruits and vegetables. For one thing, HT is the only phenol that is able to cross the Blood Brain Barrier, allowing it to not only perform its vitally important free radical scavenging activity in the bloodstream, but also throughout the nervous system. As a metabolite of dopamine, HT may also exert a neuroprotective effect and play a positive role on mood disposition. Recently, researchers have determined that hydroxytyrosol is active at the mitochondrial level, suggesting that it may play a more foundational role in the basic biochemistry of human cells than had been previously understood. Interestingly enough, this understanding, which for long time had been restricted exclusively to companies doing cutting edge research in the realm of phytomolecules — such as Creagri Inc., a California-based nutraceutical supplier — has also recently been creeping into articles published by industry related magazines such as Functional Ingredients.

Writing about polyphenols in the June 2010 issue of Functional Ingredients, although not discussing HT directly, David Mark, PhD, President of DMark Consulting LLC, explored the role played by these molecules in the basic biochemistry of mammalian life. He observed that even after prolonged consumption, the presence of polyphenols in the blood circulation of subjects studied for research purposes is only transitory, and that this data should compel researchers to modify their traditional understanding of the role played by these compounds into the antioxidative process. Mark concluded that rather than a direct physiological role, these substances play a more intriguing function at the molecular level, intervening of all places into gene modulation — as proven by studies conducted at the Harvey Research Institute — and consequently into lowering the production of endogenous pro-oxidants, as demonstrated by researchers at the University of Tokushima.

Acting indirectly as antioxidants, but more importantly as anti-inflammatory agents, polyphenols would therefore exert a more vital effect, boosting the cell’s own immunity and well-being processes. However, although much attention has been given by the media to the health effects of phytomolecules, very little attention has been paid to the benefits that the consumption of more bioavailable forms of these active ingredients could provide to health conscious consumers, and therefore to the growing amount of research being done internationally with hydroxytyrosol.

Trials with HT are under way around the globe in countries such as Spain, the Netherlands, Germany, Italy, India, China, Australia and the USA. This phytomolecule is being tested for applications in the treatment of osteoporosis, arthritis, psoriasis, endometrial cancer, cancer of the prostate and of the breast, obesity, cardiovascular disease, Alzheimer’s, macular degeneration and epilepsy. Besides Creagri, which has been at the forefront of research in the realm of hydroxytyrosol derived from olives, and whose portfolio includes 16 patents for the use and the production of HT from the juice of organic olives, patents...
Because it can be utilized with proven efficacy to formulate remedies with benefits ranging from skin protection and beauty to bone and joint wellness, hydroxytyrosol is the perfect ingredient for all sorts of applications.

For various applications of HT are also being sought by international industry leaders such as DSM International and from academic institutions such as the Instituto de La Grasa in Spain.

The quest is not only for healthy ingredients with innate benefits, but also for compounds that are natural, safe and whose health claims can be safely printed onto a product’s label. Because it can be utilized with proven efficacy to formulate remedies with benefits ranging from skin protection and beauty to bone and joint wellness, and from cardiovascular health to mental alertness, energy and performance, hydroxytyrosol is the perfect ingredient for all sorts of applications, including dietary supplements, food and beverage products, cosmeceuticals and pharmaceuticals.

Currently, hydroxytyrosol is being marketed for use in many different areas. In addition to the functional food industry, which according to BCC Research is set to reach the $177 billion revenue mark by 2013, HT is being integrated into an increasing number of dietary supplements, nutraceutical products, cosmetics and pharmacy recommended remedies, and many companies are still actively looking for ways to integrate it into many new products and formulations. In Malaysia, consumers can enjoy the benefits provided by Olivenol Plus, a dietary supplement containing HT marketed by Creagri International. In the USA, consumers have recently been benefiting from the introduction of the HA formulation for joint health, a dietary supplement containing Creagri’s proprietary formulation of HT (Hidrox).

Eco-Harvesting

Most of the hydroxytyrosol available on the market today has been extracted from the olive, either from the leaves, the bark of the tree or the juice of its fruit. To obtain their HT, many companies need to initiate new production cycles — either harvesting leaves or stripping olive trees of their bark — but Creagri Inc. has devised a natural, renewable and ecofriendly method of harvesting HT from olive juice (technically defined as olive milling water) produced during the production of olive oil. This proprietary and renewable process is called the “Integrale” and has been conceived with the intent to not only reduce waste but also to eliminate a sizeable amount of olive milling water from the environment. An industrial byproduct, olive milling water (OMW) is traditionally deemed to be non-disposable — and must be handled using appropriate and strict waste management procedures. Using the Integrale, Creagri is able to totally eliminate these waters from the waste stream, transforming them into vapour and a healthy and nutritional ingredient.

And, because the olives are pitted before being crushed, Creagri not only obtains a better olive oil with a lower acidity, but also produces less waste, as the enzymes contained in the crushed pits contribute to the polluting activity of those waters. This may seem to be an irrelevant detail; but, if Creagri’s production practices were adopted industry wide by olive oil producers, almost 1.4 billion of barrels of polluting liquid could be eliminated from the global waste stream. To put things into perspective, one should consider that the recent BP/Deepwater Horizon disaster of 2009 caused the damaged oceanic platform to spill more than 176.4 million gallons of oil into the Gulf of Mexico. This quantity amounts to about 12.6% of the oil spilled by the infamous Exxon Valdez oil spill. Because of its high phenolic content, which is more than 300 times that of olive oil, OMW is resistant to bacterial degradation. In addition, pitting the olives before crushing them not only improves the quality of the oil yielded and reduces the polluting activity of the waters, but also transforms the pits and excess pulp into a biofuel and a biological fertilizer. Creagri, for instance, uses them to fertilize the 7000 organic trees growing at Rancho Supremo, its 160 acre olive grove located in the foothills of the California Sierras.

Among the various kind of formulations of HT available on the market today, Hidrox occupies a place all of its own; not only because for the ecosustainable way in which it is produced, but also because it is the only formulation containing polyphenols derived from the juice of organic olives. In addition, it has been granted GRAS certification, it is Halal, Kosher and its claims are backed by a decade of scientific studies and research, both in human and animal models, demonstrating its wide ranging health efficacy and potent rejuvenating powers.

For more information
Paolo Pontoniere, Director of Communication for Creagri, Inc., has been a science writer for more than 20 years. A foreign correspondent for various Italian media, Pontoniere has written extensively about the biotechnology industry, nutraceuticals and the ongoing quest to discover new powerful super foods and leverage their biochemical properties. Tel. +1 510 732 6478 info@creagri.com www.creagri.com

A complete set of references to support the research presented in this article is available from the author.