

NEW CLINICAL EVIDENCE SHOWS MORE FIELDS OF CURCUMIN EFFECTIVENESS

MERIVA® - INDENA'S CURCUMIN PHYTOSOME®: A NATURAL AND SAFE HELP FOR BODY DETOX

Milan, 28th April 2022 – Indena's Meriva® Curcumin Phytosome® continues to reveal new areas of efficacy for human wellbeing. New clinical evidence shows that Meriva® is an effective oxidative stress modulator, also in the support of kidney detoxing and filtering functions.

Such evidence comes from studies which have been done by important Italian universities, specifically to evaluate the effectiveness of curcumin Phytosome® (Indena's Meriva®) for kidney health support.

Chronic renal disease is an inflammatory based disorder, and curcumin properties in modulating body response through its antioxidant properties are well known and scientifically proven. The mentioned studies showed significant effectiveness of curcumin Phytosome® in being a natural and safe aid for the support of healthy kidney functions.

The first, new study, by the University of Milan¹, focused on chronic kidney disease (CKD) subjects. Chronic kidney disease (CKD) is a condition due to the progressive loss of renal function and widely recognized as one of the most relevant risk factors for developing cardiovascular diseases (CVDs).

In the pilot study, 24 CKD subjects and 20 healthy volunteers were recruited.

CKD subjects followed nutritional counselling and were supplemented with Meriva® for six months. The parameters evaluated at baseline and after 3–6 months were uremic toxins, metagenomic of gut microbiota (which, as known, can play a pivotal role in controlling the origin of systemic inflammatory state and CKD progression) and nutritional, inflammatory, oxidative status. Curcumin significantly levelled plasma pro-inflammatory mediators and lipid peroxidation.

Another endpoint regarded gut microbiota: after 6 months of curcumin supplementation it was observed a more balanced composition of the intestinal microbial population in CKD subjects using healthy volunteers as control group. Again, the safety profile of Meriva® after long-term supplementation was confirmed, as no adverse events were observed in the supplemented group.

This recent study extended the condition-of-use “maintaining kidney healthy” previously explored by the University of Chieti-Pescara² which had the aim to evaluate the supplementation of Meriva® in subjects with temporary kidney dysfunction (TKd) and increased oxidative stress levels.

In the study held by University of Chieti-Pescara, subjects followed either standard management or standard management plus Meriva® supplementation and they were divided according to macroalbuminuria (AER >300 mg albumin on 24 hours) or microalbuminuria (AER 30 - 300 mg/day albuminuria), being albuminuria a marker of TKd.

The clinical evidence showed that albuminuria decreased in all subjects, with a statistically significant positive effect in the supplement group compared with controls ($P < 0.05$) due to its antioxidant properties. Oxidative stress level was high in all TKd subjects at inclusion: it was significantly positively affected in the supplement group ($P < 0.05$) after 4 weeks. Most supplemented subjects at 4 weeks did not experience fatigue, another aspect where TKd impact. As for safety, compliance and tolerability to Meriva® were good.

“One of our most important and historical ingredient keeps being source of new potential application in wider fields, as such important studies show – says Antonella Riva, Indena's Head of Product Innovation and Development – We're very proud that Meriva® can still help researchers to find natural solutions for conditions

¹ Pivari, F.; Mingione, A.; Piazzini, G.; Ceccarani, C.; Ottaviano, E.; Brasacchio, C.; Dei Cas, M.; Vischi, M.; Cozzolino, M.G.; Fogagnolo, P.; et al.. *Nutrients* 2022, 14, 231. <https://doi.org/10.3390/nu14010231>,

² Gianni Belcaro et al., *Panminerva medica* 2019 december;61(4):444-8

where response on oxidative stress is involved, such are kidney discomforts. We'll keep collaborating with relevant research centres to work for human wellbeing, which is part of our mission".

Indena's Meriva® is the most studied curcumin bioavailable formulation on the market, documented with over 35 clinical studies involving more than 2000 subjects. Its efficacy is demonstrated in many different health conditions, in particular in the areas of cardiovascular, intestinal and ocular health, nutrition in sports, joint health, healthy blood levels, supportive care and today also renal ageing. Moreover, its formulation as a standardized turmeric extract containing the full bouquet of curcuminoids, not just curcumin, based on Indena's Phytosome® 100% natural food-delivery system, makes such ingredient unique.

Indena is the leading company dedicated to the identification, development and production of high quality active principles derived from plants, for use in the pharmaceutical and health food industries. Backed up by a century of botanical experience, the company owns 100 patent families, has published more than 1000 scientific studies and co-operates with the world's most prestigious universities and private research institutions. Indena employs over 900 staff, investing a significant amount of its annual turnover in research, making this activity the key to its success. Headquartered in Milan, Indena has 4 production sites and 5 international branches throughout the world and manages sales in more than 80 countries. The company's experts communicate and interact constantly with the major international regulatory authorities and cooperate on the update of all the main pharmacopoeias.

CDMO activities are the priority in Indena's strategic vision. Today, Indena has a multipurpose GMP pilot plant equipped with reactor ranging from 1000 lt to 10,000 lt; a kilo lab LK2 to offer different capacities for products at the highest containment level (OEL 20 ng/m³ or OEB5); a large and a mid-size spray dryer working with organic solvents; a 20-liter hydrogenator being complemented by a 250-liter hydrogenator (ready at the end of 2022) to satisfy a wider demand for this kind of chemistry.

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