

INDENA @ in-vitality 2021

Two important new products will be the focus of Indena's participation to in-vitality 2021: BERBEVIS® (Berberine Phytosome®) and ENOVITA® ORGANIC (100% organic grape seed extract).

BERBEVIS® is Indena's innovative formulation of berberine, a plant alkaloid with a long history of medicinal use in traditional medicines. In the Berberidaceae family, the genus *Berberis* comprises of around 450–500 species, which represent the main natural source of berberine. Among them, *Berberis aristata* DC, which is the specie used for Indena's extract, is one of the most important due to its wide medicinal properties.

Specifically, berberine's proven effectiveness in the treatment of multifactorial conditions is related to its so-called "Cloud Effect": its pleiotropic effect simultaneously targets both root causes (e.g. low-grade chronic inflammation, oxidative stress, gut microbiota modulation) and marks (e.g. insulin levels) through the modulation of several cellular targets (e.g. AMPK, mitochondria, insulin-receptor, key metabolic and pro-inflammatory enzymes, etc.). This helps optimize peripheral blood metabolic profiles by modulating plasma sugar, insulin and lipids levels, thus resulting as a precious resource for the metabolic wellbeing¹.

Like many natural compounds, Berberine has a poor bioavailability. To face the issue, Indena has developed BERBEVIS®, the innovative berberine formulation with Phytosome®, Indena's proprietary delivery system designed according to the properties of each specific natural ingredient, in order to optimize its health benefits. A human pharmacokinetic study has confirmed that BERBEVIS® can optimize berberine bioabsorption, improving the substance's bioavailability on molar basis and with observed dose linearity. In vitro studies have been also made to further investigate both bioaccessibility and tolerability of Indena's BERBEVIS®.

Human studies focused on PCOS (Polycystic Ovary Syndrome) showed that BERBEVIS® is a potent, natural health-food ingredient that might help blood sugar control in a plethora of multifactorial challenges, which represent one of our time's main global health targets. A **complete presentation of Indena's BERBEVIS®** will be delivered by **Giovanna Petrangolini**, senior Scientist in Research and Development at Indena, at **in-vitality on November 25th**.

Another important product Indena will show at in-vitality is ENOVITA® ORGANIC, a 100% organic grape seed extract which comes from 40 years' experience of the company in grape seed extract production. It is the first Indena organic extract certified, by Certipaq Bio sas, and fully compliant with the European and USDA organic regulations. A recent study focused on the effects, both in vitro and in humans, of ENOVITA® ORGANIC on blood pressure revealed a surprising health counterbalance on perceived stress and showed that ENOVITA® ORGANIC may help facing stress, improving mood, getting resilience naturally. With ENOVITA® ORGANIC, quality meets sustainability. It is made exclusively with grape seeds from white wine production, transforming a waste product in something unique and starting a virtuous up-cycling process. Grapes are the product of an organic farming system that avoids the use of chemical fertilizers and pesticides. Also, the extraction process is carried out using only water.

**Attend Indena's presentation on November 25th, 2 pm, Arena Seminari
BERBEVIS®, il nuovo innovativo ingrediente a base di berberina per la salute metabolica**
Speaker: Giovanna Petrangolini, Senior Scientist in Research and Development at Indena

Visit Indena at in-vitality 2021: Stand IN304

25-26 November 2021 – Mi.Co. Fiera Milano Congressi, Milan Italy

www.indena.com

¹ Kong, Wei-Jia, et al., Pharmacology & therapeutics 209 (2020): 107496



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. Today Indena has further expanded its CDMO offer encompassing new services. In particular, a kilolab to handle semisynthetic and total synthetic APIs that require high containment (OEL of 20 ng/m³), a new multipurpose GMP pilot plant, a multipurpose fermentation suite and large-and-mid size spray dryers working with organic solvents.

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