



Solumerized trans-Resveratrol product in tablets form (Solubest Ltd.).

common bioavailability barriers. "Key to our clients' success is PSI's ability to work with their molecules, even if highly potent or DEA controlled substances and importantly, to quickly bring them into the clinic with our cGMP production of both sterile and non-sterile products," says Dr. Mitchnick.

Dr. Lee adds: "It is becoming increasingly accepted that bioavailability can be impacted in a predictable way. If one studies the currently available, scalable technologies, it is clear that there have been only incremental technical advances, but the real improvements have come from better execution. There are only a handful of unique drug delivery approaches – particle size reduction, amorphous forms, permeation enhancers – but each has different flavors. It is in excellent execution and having access to a full array of approaches that the best products are developed."

Solubest Ltd.—Increasing Solubility & Drug Absorption

Most molecular interactions within the body occur in solution or colloid, but around 50% of known pharmaceutical and natural bioactive compounds, as well as drug candidates under discovery, have poor aqueous solubility properties and/or poor permeability. Such low solubility in body fluids is translated to inadequate bioavailability and, thereby, insufficient bio-performance.

Most known drug delivery systems that aim to improve bioperformance essentially interfere with this basic physico-chemical parameter. Solubest lets clients leverage its proprietary particle engineering R&D and drug development expertise to overcome formulation challenges of hydrophobic, poor permeable, instable bioactive ingredients for multiple applications.

In addition to its leading technology, Solumer™, Solubest offers a diverse array of drug delivery approaches tailored to client needs. The proprietary solid dispersion of lipophilic APIs in polymer matrix is produced by a spray drying technique. Once in the body, Solumer solid-dispersions disintegrate into colloids, increasing drug solubility and bio-absorption. "It's important to note that particle size minimization is not the only parameter that enhances solubility," points out Dr. Galia Temtsin Krayz, Solubest COO and Vice President, R&D. There are additional essential Solumer characteristics that result in the enhanced prolonged super-saturation in relevant biological fluids. These include physico-chemical characteristics where the solubilized drug homogeneously disperses in disordered crystalline form that is interwoven into dual polymer matrix; thermodynamic features, such as depressed melting temperature and enthalpy of fusion; and surface-to-volume characteristics, the spontaneous formation of nano-colloidal dispersions upon contact with aqueous media.

Solumer technology has been used to generate a new solubilized formulation of natural antioxidant resveratrol with improved solubility. Solu-Resveratrol needs 4-5 times less dose to get the same bioavailability as not improved resveratrol products.