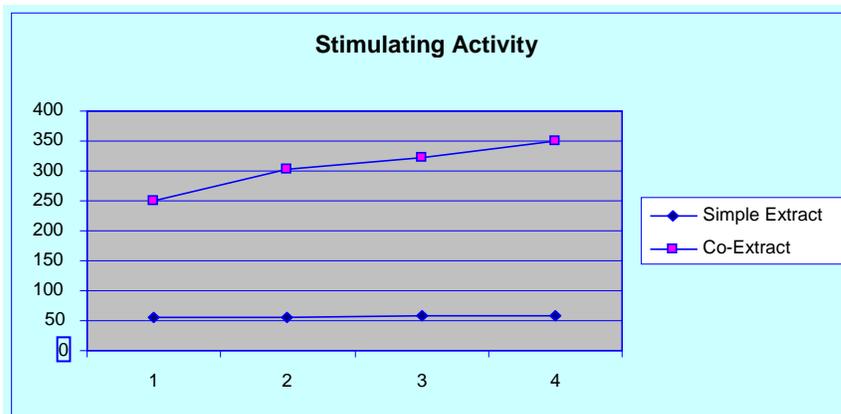


The Extraordinary Advantage and Benefit of Co-Extraction vs. Combining Simple Extracts

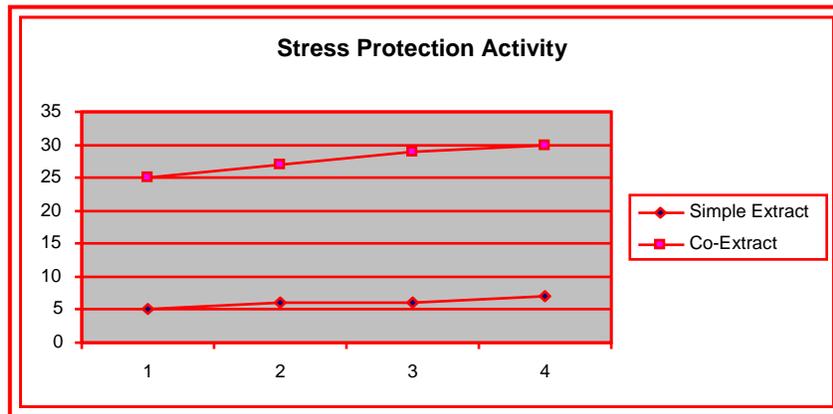
What is Co-Extraction? This is a process envisioned by Dr Brekhman where the beneficial herbal components from plants are extracted together rather than individually in individual extracts. The theory is that by co-extracting, the biological active substances will work in synergy in a homogenous blend. It is well known that when combining simple liquid extracts many of the active compounds are rendered inactive for various reasons.

Brekhman's research proved his theory when he made the first seven herbs blend in 1992. The initial results in terms of available active substances exceeded the expectation by at least five times.

A study was conducted¹ using the simple extracts of Schisandra, Rhaponticum, Rhodiola and Eleuthero were tested for comparison with a co-extract containing the same plants. The stimulating activity for the single extracts ranked a score of 55 to 59 against known stimulating activity standard. These standards had been well established in various widely accepted testing protocols. The co-extract scored between 250 and 350 demonstrating a greater than five-times expected benefit using the co-extract. Similar results were obtained for stress protective activity. The rank for single extracts was from 6 to 9, while the co-extract scored at 25-30. The advantage is very clear.



¹ Valeology, 1996, Dobrekov, Y.E., et.al. Russian Academy of Sciences, Vladivostok Dalnayuk.



Since the early research, scientists have sought to improve the original formulation which is now a unique and scientifically proven² combination of 10 adaptogenic herbs.

Why? Every herbal contains a host of biologically active compounds. These compounds are traditionally extracted from the native plant in various ways but almost always using water and alcohol.

The compounds extracted have different chemical properties and specific gravities and consistencies making them difficult if not impossible to blend into a homogenous and useful product. When taking a simple extract and combining it with other simple extracts certain chemical reactions will take place reducing the benefit of each of the compounds combined to the lowest common dominator. Furthermore, the blended extracts will have a much shorter shelf life than a co-extract.

All extracts contain a variety of secondary beneficial parts. These include important organic substances. While these are quite stable individually in a simple, single plant extract, they are anything but stable the moment they are combined with other extracts. Because each plant has a different solubility and because of the very high antioxidant capacity, oxidation occurs at the point of combining extracts forming complex chemical reaction that results in a massive spontaneous precipitation or “falling out of solution.” This precipitant unfortunately includes many of the active compounds that are beneficial to the user but now would have no benefit. The resulting precipitant is a gel like substance that is not soluble and that would be readily apparent to anyone looking at the finished product.

² Two Western Clinical Trials have shown that LERA® Adaptogen Blend normalizes or reduces cortisol output, thus mitigating the stress response. NEMA Research Inc., 3/5/2009 (See example chart, page 5).



In order to overcome these difficulties, the scientific group went to work and developed a process of complex co-extraction:

1. Plants are first measured for their native content of active substances. The desired substances are well known and easily measured by HPLC and other methods. Annual harvests may change in the quantity of active compounds in each plant. Thus, we quantify the amount of plant material to be utilized in the extract so that the end result is consistent (standardized) over time.
2. Certain plants require different amounts of extracting mixture thus proper layering in the extraction columns becomes a key element in the processing. Plants that are more water soluble are layered in the bottom of the extraction column while those that are not appear at the top layers.
3. Certain plants used in the proprietary co-extract are much less soluble and they will be “partially extracted” in an ethanolic solution prior to loading into the extraction columns. This helps assure the homogenous nature of the resulting extract.
4. During the extraction process, all substances from the raw plant materials interact multiple times and precipitants go back into the solution again and again bringing the resulting extract to one containing the highest biological value possible. Natural stabilizers like the carbohydrates from the fruits and berries are extracted into the final product with vitamins and microelements. The result is a very stable array of active substances. The percolation process takes about 24 days from the time the first column is charges until a useful extract is available.
5. The product is cleaned via a sedimentation process and then chilled and further cleaned.
6. The resulting extract is very stable and has all the biological active substances in the desired balance and in a water-soluble state that is readily bio-available.

The process of co-extraction is not simple and has not been duplicated. In fact, Sunrise Global Trading, LLC has the only license for making co-extracts. The process is unique, tested and gives proven positive results to the end user.

The advantage of co-extraction could be called a cornerstone of Brekhman’s research. His vision and commitment to bringing the best from nature to the benefit of mankind is exemplified by this unique and proprietary process. Sunrise Global Trading is very proud to share the results of Brekhman’s research and continue his commitment to the science of natural herbal products. LERA[®] Adaptogen Blend³ is a primary example of an herbal co-extract utilizing Brekhman’s technology.

The co-extraction process is the proprietary intellectual property of Sunrise Global Trading, LLC and is carried out by agreement with our contracting partner in Russia.

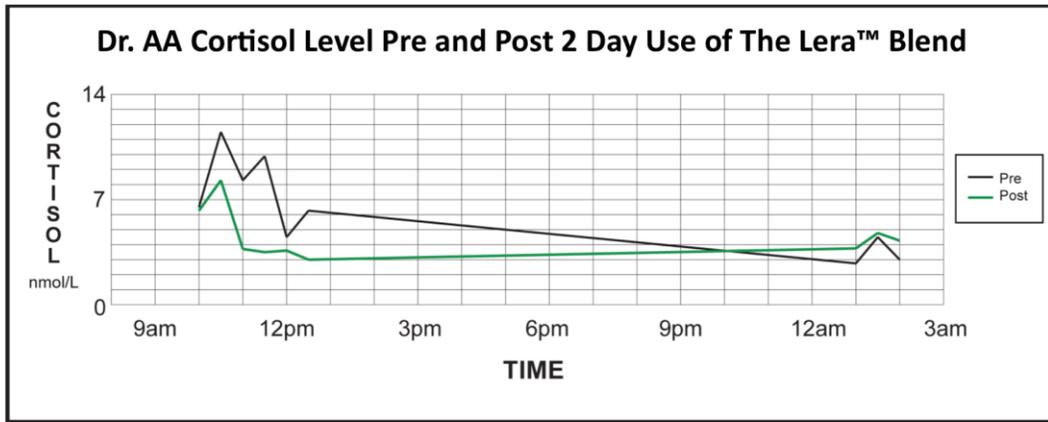
³ LERA is a Registered Trademark of Sunrise Global Trading, LLC, Winter Garden Florida USA.

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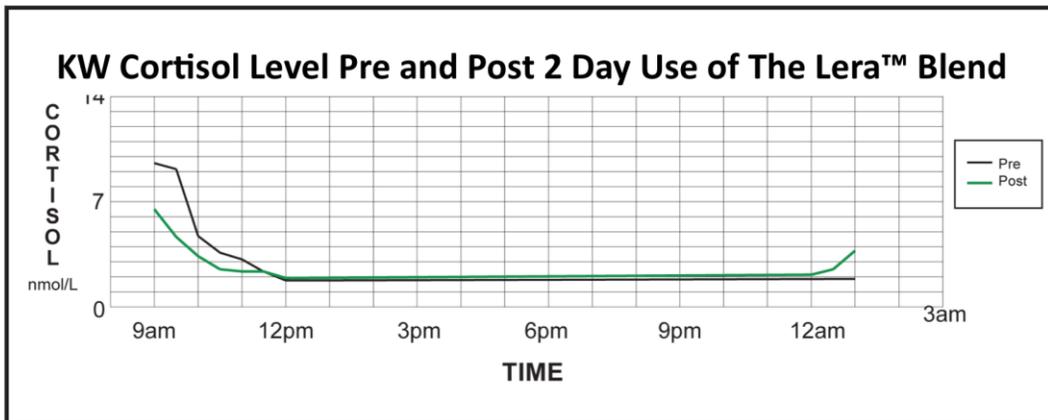
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Cortisol Testing Results Before and After Using the Lera™ Blend

Adrenal cortisol syntheses in the human body follows a diurnal pattern. In most people, cortisol production rises rapidly before awakening and peaks thirty minutes later. This Cortisol Awakening Response (CAR) is under control of the hypothalamus-pituitary-adrenal axis. Cortisol production generally declines throughout the rest of the day. Reaching its low point around midnight. There is a gradual increase in production once again, leading up to the CAR the next day. The scientific literature demonstrates a person's stress level is directly related to their output of cortisol. Below are the test results of two Lera™ users.



Dr. AA shows a typical cortisol profile. The effects of the Lera Blend can be seen after using the product for only two days. By calculating the area under the curve of the Cortisol profile, the Lera Blend reduced Dr. AA's cortisol production by 27.4% on the test day. This includes the CAR, which is a of measure chronic stress, as well as the response to acute stressors later in the day.



KW's cortisol profile is also quite typical. The area under the cortisol profile after using the Lera Blend is 17.8% smaller than the profile before the use of the product. In both of the above examples, the physiological effects of the Lera Blend were observed almost immediately.