



## Short Research on P80 Natural Essence

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### P80 Food Innovation

#### Research Background

Longan (*Dimocarpus longan* Lour.) is grown commercially in Thailand and is one of the most popularly cultivated fruit in the Northern region. It is well appreciated and regularly consumed in China and Southeast Asian countries. After more than 10 years of researching scientific papers and performing research on Longan fruit, our research team concluded that the advantages were found in the form of a concentrated syrup. This led us to develop a unique product which captured the superior nutritional benefits and properties of the Longan fruit. As a result, we went on to R&D process of extracting the Longan concentrate and is now made available in a bottled form.

#### Nutritional Properties of P80 Natural Essence

The product P80 Natural Essence was made available and was consumed over the last five years by a number of consumers. The positive feedback and the benefits of the P80 Longan Essence from consumers was observed right from the beginning.

The presence of natural bioactive compounds and properties in longan fruit have been associated with many health benefits offered to adult consumers. It might also be suitable for those who have diabetes under controlled condition with medical advices and supervision. Using a series of environmentally friendly processes with Longan fruit as its sole ingredient, consumers can have complete confidence in this product.

Its unique production process (which is patent pending), involves extracting Longan fresh fruits without the addition of any preservative. The vacuum condition used in the process helps preserve its full flavor and concentrated the final product by four folds in comparison to the original longan nectar.

The study on acute toxicity effects of longan fruit in powder form revealed that both types of powder did not cause any toxic effect or abnormality when orally fed in high dosage to rats which provide evidence that these products are relatively safe under tested condition.

A recent analysis and findings showed that the daily consumption of the P80 Natural Essence might extend the general wellness for both body and mind. The product contains polyphenols such as Gallic Acid and Ellagic Acid which are well known antioxidants to generate significant live cells protection from harmful oxidative compounds.

Its powerful content could strengthen your internal systems. Under daily long-term consumption of P80 Natural Essence at recommended dosage, the consumers should feel



some improvement in sleeping quality, memory, reducing joint and back pains, boosting of overall vitality, and relief of stresses.

### **R&D on the Unique Production Process**

Using the rigorous processes of the R&D capability of Faculty of Agro-Industry, Chiang Mai University. Dr. Charin has led the research team to develop the P80 Longan Essence as the optimal answer for balancing the highest nutritional level and extending the shelf-life of the product without the addition of any preservative. The production process condition allows or preservation of product quality by maintaining and enhancing its bioactive properties. A series of innovative processes which included adjusting sugar ratio along with several hot and cold precipitation treatments ensured the maximum efficiency of bioactive compounds in the final product.

### **Findings of the Benefits of P80 Natural Essence**

The P80 Natural Essence has a sweet caramelized taste with a honey like texture contributing to its deliciousness. The production in the form of concentrated extract do not only allow for added value and low-calories content. The relatively lower glycemic index of the product in comparison to glucose might be suitable for appropriated consumers who concerned about high sugar content under controlled nutritional condition with medical advices and supervision. The recommended dosage of this product for normal adult to attain the desired level of antioxidants is 15 ml/day.

The anti-inflammatory activity against acute inflammation was evident when longan extract was fed orally to Sprague-Dawley rats in carrageenan-induced paw edema model. Although the extract produced only a slight anti-inflammatory effect on chronic inflammation, the preferable effect of longan extract in elimination of undesired side effects as anti-inflammatory steroid drugs is also evident. Moreover, the preliminary testing of anticancer property on nasopharyngeal cancer cells indicated that the high concentration of longan extract possessed cytotoxic effect to the cancer cells.



## Phytochemical Properties in P80 Natural Essence

Identified phenolic acids in the product have been referenced with the following properties both *in vivo* and *in vitro*;

### 1) Gallic acid

Anti-oxidative, anti-fungal, anti-aging, anti-viral, and anti-cancerous properties. The compound might also be beneficial in reducing the risk of developing certain type of cancers. Some studies also claimed usefulness of gallic acid to enhance memory, relieve symptoms of insomnia and sleeping disorder, improve blood circulation and skin condition, certain protective effect on heart conditions.

### 2) Ellagic acid

Antibacterial, anti-atherogenic, anti-thrombotic, anti-inflammatory and anti-angiogenic properties. This compound could interfere with the binding of carcinogens to DNA and thus could provide positive effect in strengthening connective tissue and thus slow down the process of cancerous cells spreading. The other claims include supporting vascular health benefits, retardation of DNA mutation, some improvements of memory and wound healing.

### 3) Tannic acid

Relief of some muscle, joint, and bone pains.

### 4) GABA

Reduces neuronal excitability throughout the nervous system. This is responsible for improved sleep and also directly responsible for the regulation of muscle tone.

### 5) Corilagin

Anti-inflammatory, anti-tumor activities and relief of some muscle, joint and pains.