Epidemiological studies have demonstrated that the process of ageing is the major risk factor for cardiovascular impairment. Pomanox™ may provide efficient protection of cardiovascular functions by several mechanisms, such as improving blood circulation and endothelial functions, key components of healthy ageing.

Pomanox™ has shown additional health-promoting properties, such as modulation of inflammatory and metabolic responses, prebiotic effects, anti-fatigue effects, and improvement of hair health.

Pomanox™ is the result of 7 years Research and Development with eco-friendly patented technology utilising only ultra-pure water, which preserves natural active ingredients of fresh pomegranate fruits.
Pomanox™ is a patented and scientifically proven natural extract of pomegranate, obtained from fresh fruit. Pomanox™ keeps all the healthy properties, the profile of the bioactive compounds present in the whole fresh fruit and has low sugar content.

Pomanox™ is obtained from pomegranates grown in Mediterranean regions of Spain, under strict quality control through eco-friendly technologies, based on a patented ultrapure water-based extraction process without organic solvents (EP1967079B1).

Pomanox™ is also available with Kosher, Halal and Organic Certificates

Pomanox™ is the result of 7 years dedicated to the perfection of this patented extraction method and Research & Development intense activities.

Pomanox™ contains active compounds present in the whole pomegranate fruit. Of the many beneficial compounds found in pomegranate, the polyphenols punicalagins are responsible for most of the antioxidant power and health benefits of pomegranate. Pomanox™ is standardised for punicalagins α + β and contains other pomegranate polyphenols from fresh fruit that act synergistically.

Pomanox™ data package includes:

- Product specifications
- Stability
- Toxicology
  - Acute toxicity (LD50) (OECD 420)
  - Cardio toxicity (OECD 414)
  - Foetal toxicity (Embryo Toxicity (FET) Test. Draft guideline May 30, 2006)
- Pre-clinical studies (mice and rats)
  - Lipid profile control
  - Control of hypertension
  - Weight control
  - Genetic expression
- Clinical trials publications and proprietary reports developed in collaboration with prestigious entities
- Identification of “middle points” through nutrigenomic studies
**KEY BENEFITS AND EVIDENTIARY EVIDENCE**

1. **CARDIOVASCULAR HEALTH:**

   - **CSIC-ICCC** (Cardiovascular Research Center of Cardiovascular Institute, Barcelona, Spain). Preclinical study (Swine Model). 200mg Punicalagins/day (Pomanox P30).
     
     **Conclusions:** Pomanox supplementation hinders hyperlipemia-induced coronary endothelial dysfunction by activating the Akt/endothelial nitric oxide-synthase pathway and favorably counteracting vascular inflammation and oxidative damage (1)

   - **Institute of Health Investigation of La Paz University Hospital Clinical Study** (Madrid, Spain). 195mg punicalagins (as Pomanox) + 9.9mg hydroxytyrosol (as Mediterranean™) in a double-blind, controlled, crossover clinical trial, 67 subjects (14 men, 53 women aged 45-65 years). 20 weeks duration.
     
     **Conclusions:** Supplementation with Pomanox and Mediterranean improves endothelial function and reduces LDL cholesterol oxidation in apparently healthy subjects who actually have Endothelial Dysfunction (ED). Since ED is greatly underdiagnosed, supplementation with HT plus PN could help reduce the risk of CVD that this can entail (2)

   - **Queen Margaret University, Scotland, United Kingdom. Clinical Study.** 210mg Punicalagins /day. 4-week randomised, double-blind, placebo-controlled pilot study. 210mg punicalagins/day (Pomanox P30: 700 mg).
     
     **Conclusions:** These results suggest that intake of Pomanox rich in biophenol may ameliorate cardiovascular risk factors, reduce stress levels and improve perceived health related quality of life. The reduction in salivary cortisol levels may prove beneficial for people suffering from chronic stress. The decrease in insulin resistance may improve health outcomes for those who suffer from CVD, type2 diabetes and metabolic syndrome (3)

   - **Queen Margaret University, Scotland, United Kingdom. Clinical Study.** Daily dose: 210mg Punicalagins /day (Pomanox P30: 700mg) capsules or placebo capsules for 8 weeks. A total of fifty-five participants enrolled in this randomised double-blind placebo-controlled clinical trial.
     
     **Conclusions:** Results showed a significant decrease in diastolic blood pressure after 8 weeks (by 2.79 (SD 5.32) mmHg; P < 0.05), while the decrease in systolic approached statistical significance (2.57 (SD 7.4) mmHg; P > 0.05): High blood pressure is the greatest contributor to CVD worldwide and one of the most common CVD risk factors. Pomanox may reduce blood pressure and possibly prevent hypertension in the normotensive population (4)

2. **INFLAMMATION**

   - **Pilot Study of Human Intervention with Pomanox. Pilot study of human intervention with Pomanox, punicalagins 80 mg / day for 30 days, 20 participants**
     
     **Conclusions:** the consumption of Pomanox induces a decrease in serum levels of pro-inflammatory cytokines IL1β, IL6, IL8 and TNF-α, and an increase in the serum level of the anti-inflammatory cytokine IL10.
     
     Recently, Pomanox has been instrumental to reveal the mechanism of Interleukin-18 (IL-18) release. IL-18 is a critical regulator of the inflammatory response. This authoritative study was published by Nature Publishing Group (5)

3. **PREBIOTIC / GUT HEALTH**

   - **Pilot Study of Human Intervention with Pomanox. 115mg Punicalagins/day. 28 days duration.**
     
     **Conclusions:** the consumption of Pomanox, increases levels of beneficial flora (Lactobacillus and Bifidobacterium) and, at the same time, it decreases levels of harmful bacteria and improves bowel functions. Proprietary in-vitro and animal studies confirm these properties

4. **HAIR CARE**

   - **Clinical Pilot Study. 110mg Punicalagins/day. Longitudinal, randomised and monitored by Quantum Experimental S.L. 60 days duration 20 men with a mean age of 49 years and having no scarring alopecia:** Punicalagins 110mg / day (Pomanox P30: 366 mg).
     
     **Conclusions:** Intake of Pomanox may be of value in hair care, as suggested by: improved test score in the pull test, increased hair density and thickness and increased ratio of hair in the anagen / telogen phase

5. **SPORT NUTRITION**

   - **Clinical study conducted by the Department of Exercise Physiology UCAM (Catholic University of Murcia): 225 mg punicalagins/day (as Pomanox P30). Treatment duration: 15 days.**
     
     **Conclusions:** Pomanox supplementation delayed the arrival of athletes depletion significantly, the total test time or end of maximal incremental exercise test increases by 14.2%. In addition, Pomanox consumption significantly increases the time to reach the ventilatory threshold 2 and favors the smallest increase of muscle damage and inflammation (DOMS) generated by the test, though the latter was not statistically significant (6)

**REFERENCES**

(6) Submitted
**PRODUCT FEATURES**

**Name:** Pomanox™, from 100% fresh pomegranate fruit (*Punica granatum* L.)

<table>
<thead>
<tr>
<th>Potency</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>P15 (15%)</td>
<td>powder</td>
</tr>
<tr>
<td>P20 (20%)</td>
<td>powder</td>
</tr>
<tr>
<td>P30 (30%)</td>
<td>powder</td>
</tr>
</tbody>
</table>

**Taste:** Astringent

**Solubility:** Water soluble

**Dosage:** 80-225 mg punicalagins α + β daily

**Punicalagin content:** Up to 30% punicalagins α + β w/w

**Antioxidant capacity:** up to ORAC>5.700 μmol eq. Trolox/g

**Manufacturing:** Patented ultrapure water extraction

**Heat stability:** Thermal stability to pasteurization, baking, etc. and low impact on the final product taste/flavor

**Other features:**
- Organic solvents free. 100% vegetarian and natural. From fresh fruits. Easy to use, apply and incorporate.
- Adaptable formulation to customer requirements. Kosher, Halal and Organic Certificates.
- GMO-free, allergen-free, microbiology, non-irradiated, heavy metals, pesticides, aflatoxins comply with European standards.

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