

Apple PCQ



SelectSIEVE® NaTech

SelectSIEVE® Apple PCQ



The superfruit to modulate glucose up-take

- Traditionally known as an healthy fruit
- strongly supported by scientific evidences
- Highly standardized **biophenols** from apple
- Proprietary soft technology GSMT®
- Better bioavailability of **glycosylated phytonutrients**
- **Ecosustainable** processing of apple pomace

SelectSIEVE® Apple PCQ

Characteristics

BOTANICAL NAME:

Malus domestica (syn. *Malus silvestris* or *Pyrus malus*)

APPEARANCE:

Reddish-brown fine powder

SOLUBILITY:

Soluble in water

Applications

TYPICAL DOSAGE:

100 - 250 mg/day

SUITABLE FOR:

Food supplements, dietetics, functional food, medical foods, beverages

APPLIED IN:

Tablets, capsules, soft-gels, vials, sachets, soft-drinks



APPLE SYNERGY FOR GLYCEMIA CONTROL

BIOLOGICAL TARGET:

People affected by hyperglycemia or subjected to high risk of cardiovascular disease due to overweight

MECHANISM OF ACTION:

SelectSIEVE® Apple PCQ is composed of a unique profile of glycosylated flavonoids:

- Phloridzin inhibits glucose absorption at intestinal, renal and muscular levels thanks to the competitive binding to SGLTn/GLUTn transporters; PHLO also delays glucose absorption and corresponding post-prandial peak;
- Chlorogenic acid regulates glucose hepatic homeostasis and its concentration in the blood through modulation of Glucose-6-phosphatase and G6P-translocase;
- Quercetin improves endothelial function through the draining action and prevention of LDL-oxidation; QUE also limits fat storage by suppressing the PPAR- γ gene, responsible of pre-adipocytes differentiation into mature adipocytes.

INGREDIENT BENEFITS:

SelectSIEVE® Apple PCQ is composed by healthy flavonoids from apple whose functional properties have been widely described in literature for being active on glucose & lipid metabolism and protecting body cells and LDL from oxidative damages. Such biophenols are isolated from the fruit in glycosylated form which is guaranteed of the natural source and improves their digestibility, bioavailability and stability.

EFFICACY PERFORMANCES

SelectSIEVE® Apple PCQ was tested *in vitro* for different CVD-related models. Its ability to fight against different oxidative stress models was investigated in comparison with another apple extract (PAE) by means of:

- scavenging properties against DPPH and ABTS radicals: **+23%** and **+36%** respectively (both expressed as IC50);
- Folin-Ciocalteu assay: **+40%**
- ORAC: 10,000 $\mu\text{mol TE/g}$

The antioxidant activity was also determined as the capacity to promote those enzymes working in synergy to neutralize free radicals and oxidant agents:

- improvement of SOD-mediated Cytochrome C reduction by **+22%**
- increase of CAT performance by **+32%**
- enhancement of GSH-Px ability by **+18%**

The hyperglycemic properties were assessed through the inhibition of the enzymes involved in carbohydrates metabolism and glucose absorption:

- α -amilase: decreased activity by **-74%**
- α -glucosidase: inhibition by **-92%**

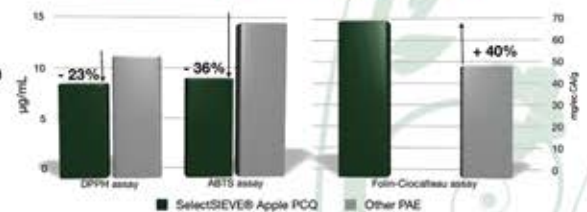
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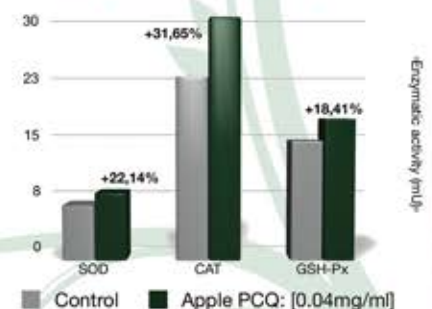
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ROS Scavenging & anti-oxidant properties



Enzymatic anti-oxidant activity



Enzymatic hypoglycemic activity

