The artichoke (Cynara cardunculus), which is native to the Mediterranean region, has been grown in Sicily since the classical period of ancient Greece. Traditionally, artichoke leaves are used for the symptomatic relief of digestive disorders, such as functional dyspepsia, and to reduce the symptoms of irritable bowel (sensation of fullness, bloating and nausea) (1-11). **ALTLIX®** is a powder extract obtained from the leaves of a particular cultivar named Cynara cardunculus var. altillus DC. by using aqueous extraction methods. BIONAP has selected this specific cultivar because of its high concentration of biophenols and its resistance to severe weather conditions. Artichoke leaves are used in folk medicine for the detoxification of the body and for the gastro-intestinal well-being (1).

<table>
<thead>
<tr>
<th>COMPOSITION</th>
<th>ALTLIX®™ (%W/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorogenic Acid and derivatives (HPLC)</td>
<td>10.0 – 12.0</td>
</tr>
<tr>
<td>Luteolin-7-glucoside and derivatives (HPLC)</td>
<td>2.0 – 4.0</td>
</tr>
</tbody>
</table>

### Suggested dosage

100-200 mg/die

**What it does**

Bioactive compounds contained in artichoke leaves have been shown to have a diuretic and detoxifying activity. These effects are attributed to the caffeoylquinic acids and flavonoids (2). The caffeoylquinic acids, such as 3-caffeoylquinic acid (chlorogenic acid), 1,3-di-O-caffeoylquinic acid (cynarin) and caffeic acid, show choliagogue and choleretic functions in several clinical trials (3,4,9). These functions improve bile formation and ameliorate digestion, bowel function and hepatoprotective activity (5,11,12). The flavonoids contained in artichoke leaves (such as luteolin-7-β-rutinoside (scopolinose), luteolin-7-β-D-glucoside and luteolin-4-β-D-glucoside) have shown to inhibit cholesterol biosynthesis and LDL oxidation (6-10).

**How to use**

**ALTLIX®** can be used in dietary supplements (capsules, tablets, granules or sachets) and functional foods and beverages designed to improve gastro-intestinal well-being (improvement of dyspeptic and IBS symptoms) and regulate bowel function.

**Scientific investigation of the cleaning body and gastro-intestinal well-being of ALTLIX® components**

The artichoke is one of the world’s oldest medicinal plants with multiple health benefits (1):

- **Hepatoprotective and antioxidant activity**

The hepatoprotective activity of the artichoke has been known for a long time. Nowadays, in vivo studies have proven that Cynara extract protects against liver damage induced by carbon tetrachloride (a highly hepatotoxic substance), counteracting the lipid peroxidation (5-4). In addition, artichoke extract has been proven to produce dose-dependent inhibition of induced oxidative stress in human model. Cynarine, chlorogenic acid and luteolin seem to be the most active substances involved in the protective antioxidant activity (13).

- **Choleretic-choliagogue activity**

The artichoke exerts a strong choleretic action, favoring hepatocellular functionality and bile secretion (9). Clinical studies have shown that administration of cynara extracts enables to increase bile secretion by more than 50% in the hours following the administration (3). Cynarine and chlorogenic acid exert a major effect both on choleretic and bile acid production. Numerous clinical trials have been carried out to demonstrate how artichoke extract helps improve symptoms of gastro-intestinal disorders such as IBS and functional dyspepsia (7, 11, 12).

**REFERENCES**