Extraction and Processing

Ametis JSC has its own patented technology for the extraction of Lavitol (Dihydroquercetin):

The technological production line is equipped with modern high-tech equipment, which allows to produce high quality products.

Quality Check and Assurance

Every batch is tested for active ingredients - dihydroquercetin and other relative compounds:
Heavy metals, pesticides, microbiological characteristics, physical analysis are carried out for every batch;
HPLC and other analytical reports available for customers.
Each batch of the finished product is accompanied by a Certificate of Analysis and Chromatogram.

Environmental Responsibility

Lavitol (Dihydroquercetin) is extracted from the stumps of Dahurian Larch, that are in fact the waste products in the wood processing industry. The logging is carried out in a manner that reduces damage to the environment. We stock the stumps in such a way to decrease the pulp-tree of remaining trees in the forest and to prepare the land for further development of new saplings. The stumps liquidation of Dahurian Larches allows to decrease the quantity of dead-wood, that is highly important during the non-fire-rated period.

We strive to comply with the principles ensuring environmental preservation, aimed at prevention of environmental pollution and efficient management of energy and natural resources.

SPECIFICATION

| Product        | Lavitol (Dihydroquercetin) |
| Source         | Dahurian Larch - Larix Gmelini (Rupr.) Rupr. |
| Part used      | Stumps |
| Source of Origin | Russian Federation |
| Chemical family | Bioflavonoids |
| Formula        | Mixture of flavonoids, featuring dihydroquercetin |
| Composition    | Dihydroquercetin (taxifolin) - min. 90% by weight |
| Other Ingredients | Aromadendrin, eriodictyol, quercetin, naringenin, pinocembrin - max. 10% by weight |
| Identification | HPLC method |
| Physical state | Solid powder |
| Colour         | White to light yellow |
| Solubility     | Soluble in ethanol, water-ethanol solutions, ethyl acetate; weakly soluble in water, oils; insoluble in chloroform, ether, benzene |
| Extraction solvent | Aqueous-alcohol solution |
| Stability      | Stable at normal conditions of at least 5 years |

Dahurian larch tree extract - Dihydroquercetin/Taxifolin is an active antioxidant of natural origin with a high biological activity and a whole range of positive effects on metabolic different pathological processes, allowing to put dihydroquercetin on the first positions among the substances with similar spectrum of action.

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LAVITOL is a trade name for Dihydroquercetin extracted from the stumps of Dahurian Larch (Gmelinii Larch).
As the powerful natural antioxidant Lavitol (Dihydroquercetin) is used for treating circulation problems, high-blood pressure, chronic venous insufficiency, diabetes, is also used for preventing inflammation processes, disorders of the heart and blood vessels, for improving athletic endurance, slowing the aging process and maintaining healthy skin.

Antioxidants are the body’s natural defense against free radicals, also called oxidative stress, which plays a major role in diseases formation. The leading health problems like heart diseases, cancer have been linked to increased levels of oxidative damage and inflammation. One of the many measures of the antioxidant activity is the ORAC (Oxygen Radical Absorbance Capacity) value. Eating products with high ORAC values may help to slow the aging process.

**ANTIOXIDANT ACTIVITY OF LAVITOL (DIHYDROQUERCETIN)* (ORACHydro, jimole TE/g)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavitol (Dihydroquercetin)</td>
<td>15155-32744*</td>
</tr>
<tr>
<td>Luteolin</td>
<td>12500</td>
</tr>
<tr>
<td>Quercetin</td>
<td>10900</td>
</tr>
<tr>
<td>Epicatechin (green tea extract)</td>
<td>8100</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>2100</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>1300</td>
</tr>
</tbody>
</table>

*Data provided by Brunswick Laboratories

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**Protect yourself from free radical damage and heart disease**

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**Biological Effects and Key Benefits of Dihydroquercetin**

- **Neuroprotective agent**
  - Protects against the oxidative injury
  - Decreases the primary and secondary products of lipid peroxidation
  - Decreases the frequency of headaches
  - Improves memory
  - Reduces vertigo and fatigue
  - Improves cognitive function

- **Cardioprotective agent**
  - Supports optimal heart health
  - Reduces the risk of heart-related diseases
  - Normalizes blood pressure
  - Increases the systolic index
  - Lowers total cholesterol levels
  - Reduces the cholesterol's ability to form plaques in arteries
  - Reduces the triglyceride levels
  - Provides antioxidant protection to the heart

- **Circulation enhancer**
  - Strengthens blood vessels and capillary walls
  - Increases capillary permeability
  - Lowers blood viscosity
  - Reduces aggregation of erythrocytes
  - Increases the level of fibrinogen
  - Stimulates blood microcirculation
  - Has positive effects on the rheological indices

- **Hepatoprotective agent**
  - Protects liver from toxins
  - Lowers levels of gamma-transaminase and alkaline phosphatase
  - Accelerates the regeneration of damaged liver parenchyma

- **Endocrine agent (Diabetes mellitus)**
  - Improves sensitivity to insulin
  - Decreases HbA1c and MDA levels
  - Inhibits the development and progression of diabetes-related complications in the blood vessels
  - DHE is found to be beneficial in cases of diabetic retinopathy

- **Immunomodulating agent**
  - Shows significant anti-inflammatory activities
  - Shows activity against herpes simplex virus, poliovirus, Sindbis virus, and respiratory syncytial virus
  - Exhibits antibacterial and antifungal properties
  - Shows the ability to affect histamine release
  - Shows antiproliferative properties in a variety of cancer cell lines