Lipolytic and soothing activity

A study was undertaken to evaluate the activity of Ginkgo Biloba Dimeric Flavonoids (GBDF) on cyclic AMP (cAMP) - phosphodiesterase (PDE) in adipose tissue in vitro. By inhibiting PDE, in fact, the regulating effect of cAMP on lipolysis is enhanced, and lipolysis promoted by a longer activation of the biochemical mediator cAMP. In an experimental model, the biflavonic fraction of Ginkgo biloba has been shown to perform a good soothing activity as the pure GBDF fraction reduced oedematous response by 73%, and its Phytosome® form showed a slightly higher activity.

Proven efficacy on humans

Thirty-five subjects of either sex divided in different groups (of 5 subjects each) have been treated with the GBDF Phytosome® to evaluate its vasokinetic properties. Different areas and parameters have been tested. Here we report the results obtained on the group of 5 cellulitic (II-III stage) female subjects treated with a cream (O/W emulsion containing 3% of GBDF Phytosome®) and an O/W emulsion of 2% phosphatidylcholine as control preparation. The preparations were applied on thighs, baseline values and variations of blood flow and capillary density occurring after the applications (0.5 ml) were recorded. Capillary Density (CD%) has been evaluated with Optic Probe Videocapillaroscopy (OPV) before and after 45 min showing a great increase of CD (statistically significant p<0.01) whereas control treatment did not induce significant variations. Capillary blood flow measured by Laser Doppler has been evaluated before treatment and after 45 minutes. It showed a statistically significant increase by 46%.

Mechanism of action

GBDF Phytosome® inhibits cAMP phosphodiesterase thus improving lipolysis in fat cells and the capillary blood flow, because cAMP is able to stimulate the pre-capillary arterioles rhythmic contractions. Moreover the number of open capillaries increases. This activities, among the soothing ones observed, are important for the management of cellulite.

The improvement in the activity of the Phytosome® form, compared to the free active principles, is due to a higher affinity of the phospholipidic complex to the skin phospholipids. This not only improves the absorption of the compounds exerting the biological activity, but also increases the duration of the activity as the complex slowly releases the active principle.

GBDF Phytosome®

Safety data

Topical application of the product (at a 3% concentration in an aqueous gel) showed good tolerability and no cutaneous sensitization on 20 healthy volunteers. The product can be therefore considered innocuous for the foreseen use.

Characteristics

GBDF PHYTOSOME®

HPLC Content: ≥10% of total biflavones, expressed as ginkgetin, with reference to the anhydrous and solvent free substance.
Form: green-brown amorphous powder, odorless
pH: not applicable (insoluble in water)
Stability: long term (25°C / 60% RH) and accelerated stability (40°C / 75% RH) available
Level of use: up to 3%
Solubility*: soluble in ethoxydiglycol, propylene glycol, C12-15 Alkyl Benzoate

Available Documentation

- Botanical Certificate
- Analytical method
- References Standard
- Declaration GMO free
- Safety Data Sheet
- Stability data
- Published literature
- Confidential documentation

Formulation examples

O/W Emulsion with GBDF PHYTOSOME®

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBDF PHYTOSOME®</td>
<td>0.5%</td>
</tr>
<tr>
<td>Centella asiatica Phytosome®</td>
<td>1.0%</td>
</tr>
<tr>
<td>Kola dry extract</td>
<td>0.5%</td>
</tr>
<tr>
<td>(Cont. 14% alkaloids as caffeine)</td>
<td></td>
</tr>
<tr>
<td>Carbomer 980</td>
<td>0.5%</td>
</tr>
<tr>
<td>Acrylates/Acetal C10-30-Acrylate crosspolymer</td>
<td>0.25%</td>
</tr>
<tr>
<td>Imidazolidind Urea</td>
<td>0.3%</td>
</tr>
<tr>
<td>Methyl Chloroisothiazolinone (and)</td>
<td></td>
</tr>
<tr>
<td>Methyl Isothiazolinone</td>
<td>0.05%</td>
</tr>
<tr>
<td>Diisodium EDTA</td>
<td>0.1%</td>
</tr>
<tr>
<td>Distilled Water</td>
<td>as needed to 100%</td>
</tr>
</tbody>
</table>

Glyceril Stearate 2.0%
Sodium Hyroxide sol. 10% 1.4%
Fragrance 0.2%
Distilled Water as needed to 100%

GBDF PHYTOSOME®

Glyceryl Stearate 2.0%
Sodium Hyroxide sol. 10% 1.4%
Fragrance 0.2%
Distilled Water as needed to 100%

Also suitable for

- Firming products (gels, emulsions and gel-emulsions)
- Slimming products (gels, emulsions and gel-emulsions)
- Anticellulite products (gels, emulsions and gel-emulsions)
- Products for legs health (gels, emulsions and gel-emulsions)
- Massage oils

Did you know...

Ginkgo biloba is considered as a living fossil, as it is the only survivor of a species originated 150 million years ago: as the tree defended itself throughout the centuries, it is in its components that modern science has identified the reasons for this immutability.

Although this plant has contributed to the creation of several pharmaceutical products, the novelty of GBDF Phytosome® lies in its uniqueness, as it is not present in common Ginkgo biloba pharmaceutical and cosmetic extracts. Due to the activity shown, GBDF Phytosome® is a good active against cellulite acting on its three main factors: lack of microcirculation, local inflammation and fat deposits.

TRADE NAME | INCI (CTFA) | INCI (E.U.) | EINECS N. | CAS N. | INDENA CODE
---|---|---|---|---|---
Ginkgo Biloba Biflavones Phytosome® | Phospholipids (and) Ginkgo biloba Leaf Extract | Phospholipids | 232-307-2 | 8002-43-5 | 9032991
Ginkgo Biloba Extract | 289 - 896 - 4 | 90045 - 36 - 6 |