



# liporeductyl®

*No trace from cellulite*

## Prevents adipocyte maturation



### Description

Pro-liposomal system containing a mixture of ingredients that not only fights cellulite but also prevents its formation.

### Appearance

Amber to brown paste.

### INCI

Water (Aqua), Glycerin, Lecithin, Caffeine, Butcherbroom (Ruscus Aculeatus) Root Extract, Maltodextrin, Silica, Tea-Hydroiodide, Propylene Glycol, Ivy (Hedera Helix) Extract, Carnitine, Escin, Tripeptide-1, Xanthan Gum, Carrageenan (Chondrus Crispus), Disodium EDTA.

Please contact us for information on the preservative system.

### Properties

liporeductyl® has a lipolytic activity, working on the fat, and a venotonic effect, activating the microcirculation. It is capable of reducing and preventing cellulite formation, as well as providing a slimming effect.

### Applications

liporeductyl® can be incorporated in body care formulations, especially in anti-cellulite and slimming products.

## Activates lipolysis and microcirculation

### Science

Cellulite forms due to fat accumulation and liquid retention, usually in thighs and butt. When fat cells increase in size, their membranes become distorted and lose their shape. An uneven distribution of fat and a weakened connective tissue modify the appearance of skin leading to "orange-peel" skin dimples. The failure of the vascular system responsible for circulation and drainage of toxins results in leakage of liquid into the surrounding tissue, which also affects adipocytes. They produce an excess of triglycerides and grow in size, becoming trapped in the connective network. Then, a negative cycle starts.

Classical anti-cellulite extracts are combined in a pro-liposomal system, improving their penetration, with the synergistic effect of GHK in liporeductyl®. The tripeptide acts as a scavenger for by-products of lipid peroxidation, enhancing the effectiveness of the other components to fight cellulite and prevent adipocyte maturation.

### Dosage 5-10%

### Solubility

Dispersible in water.



## In vitro efficacy

### PREVENTIVE EFFECT: INHIBITION OF ADIPOCYTE MATURATION

Human pre-adipocytes in a cell culture were stimulated to differentiate to adipocytes using a potent mixture of differentiation agents which induces a strong accumulation of fat inside the lipid droplets contained in the pre-adipocytes. The lipid droplets were visualised by phase contrast microscopy and quantified by image analysis. Number of cells per area and number of differentiated adipocytes were also quantified.



0µg/ml liporeductyl®

10µg/ml liporeductyl®

100µg/ml liporeductyl®

### liporeductyl® targets specifically adipocyte maturation

The number of adipocytes decreased while other cells remained unaffected. Besides, both the total number of lipid droplets and their size were reduced in a dose-dependent manner.

## In vivo efficacy

### ANTI-CELLULITE AND SLIMMING EFFECT

The study was performed on 20 females with cellulite imperfections, aged between 18 and 70. A gel containing 7% liporeductyl® was applied daily for 60 days on specific body areas.

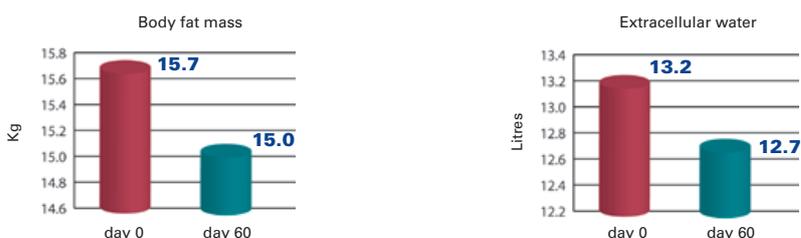
#### • Instrumental measurements

##### A. Buttock and thigh circumference.



##### B. Body fat mass and extracellular water.

Measurements were performed by STA/BIA instrument.



##### C. Skin moisture and elasticity.

Measurements were performed by a Corneometer® and a Cutometer®, respectively.

#### • Video-capillaroscopy

Images of the skin were taken using Video-capillaroscopy before and after the test. This technique achieves 200x magnifications of cellulite imperfections.



day 0

day 60

In buttocks, 15% of patients showed a decrease of 2.0 to 3.0 cm while 60%, of 0.5 to 1.0 cm. In thighs, 85% of patients presented a reduction of 0.5 to 1.0 cm

50% of patients lost from 0.6 to 1.4 Kg in weight, and 60% showed a decrease of 0.5 to 1.6 litres in extracellular water

liporeductyl® enhances both parameters, skin hydration and elasticity 9.5% increase in the moisturising index and 24.4% increase in elasticity, after 60 days.

liporeductyl® improves microcirculation, reduces the presence of nodules and consequently, diminishes “orange-peel” skin