

CELLULYSE

■ Composition

Active Ingredients

Mannitol
4-(1-Pyrrolidinyl)-1-(2,4,6-trimethoxyphenyl)
1-butanone (PTMBP)
Sodium Metasilicate
Theophylline (1 mg/ml)
Tween 80 γ -cyclodextrine
Vitamin P

Amino Acids

L- Alanine
L- Arginine HCl
L- Asparagine H₂O
L- Aspartic Acid
L- Cysteine HCl H₂O
L- Glutamic Acid
L- Glutamine
Glycine
L- Histidine HCl H₂O
L- Isoleucine
L- Leucine
L- Lysine HCl
L- Methionine
L- Phenylalanine (16.4 mg/l)
L- Proline
Pyruvic acid
L- Serine
L- Threonine
L- Tryptophan
L- Tyrosine 2Na 2H₂O
L- Valine

Minerals

Ammonium Metavanadate
Ammonium Molybdate · 4H₂O

Calcium Chloride · 2H₂O
Cupric Sulfate · 5H₂O
Ferrous Sulfate · 7H₂O
Magnesium Sulfate
Manganese Sulfate
Nickel Chloride · 6H₂O
Potassium Chloride
Sodium Phosphate Dibasic
Sodium Chloride
Sodium Selenite (0.003 mg/l)
Zinc Sulfate · 7H₂O

Vitamins

Ascorbic acid (Vitamin C)
D-Biotin (Vitamin B8)
Choline Chloride
Cobalamine (Vitamin B12)
Folic Acid · Ca
Myo-Inositol
Niacinamide (Vitamin B3)
D-Pantothenic Acid · Ca (Vitamin B5)
Pyridoxine · HCl (Vitamin B6)
Riboflavin
Thiamine · HCl (Vitamin B1)

Other components

Adenine · HCl
Benzyl Alcohol
D-Glucose
Phenol Red · Na
Procaine (0.5 mg/ml)
Putrescine · 2HCl
Safranin O
D-L-6,8-Thioctic Acid
Thymidine

■ Packaging

Box of 10 vials of 5.0 ml e.a.

■ Bibliography

Adcock D, Paulsen S, Jabour K, Davis S, Nanney LB, Shack RB. Analysis of the effects of deep mechanical massage in the porcine model. *Plast Reconstr Surg.* 2001 Jul;108(1):233-40 - Dickinson BI, Gora-Harper ML. Aminophylline for cellulite removal. *Ann Pharmacother.* 1996 Mar;30(3):292-3 - Draelos ZD, Marenus KD. Cellulite. Etiology and purported treatment. *Dermatol Surg.* 1997 Dec;23(12):1177-81 - Franchi J, Pellicier F, Andre P, Schnebert S. The adipocyte in the history of slimming agents. *Pathol Biol (Paris).* 2003 Jul;51(5):244-7 - Labs KH, Eichlisberger R, Jeanneret C, Frauchiger B, Aschwanden M, Jager KA. Assessment of collateral perfusion: a pharmacodynamic study with buflomedil hydrochloride. *Angiology.* 2000 Apr;51(4):301-8 - Querleux B, Cornillon C, Jolivet O, Bittoun J. Anatomy and physiology of subcutaneous adipose tissue by in vivo magnetic resonance imaging and spectroscopy: relationships with sex and presence of cellulite. *Skin Res Technol.* 2002 May;8(2):118-24 - Rosenbaum M, Prieto V, Hellmer J, Boschmann M, Krueger J, Leibel RL, Ship AG. An exploratory investigation of the morphology and biochemistry of cellulite. *Plast Reconstr Surg.* 1998 Jun;101(7):1934-9 - Rossi AB, Vergnanini AL. Cellulite: a review. *J Eur Acad Dermatol Venereol.* 2000 Jul;14(4):251-62 - Sainio EL, Rantanen T, Kanerva L. Ingredients and safety of cellulite creams. *Eur J Dermatol.* 2000 Dec;10(8):596-603 - Uhl E, Rosken F, Curri SB, Menger MD, Messmer K. Reduction of skin flap necrosis by transdermal application of buflomedil bound to liposomes. *Plast Reconstr Surg.* 1998 Oct;102(5):1598-604.



mesoACTIVE CELLULYSE

*The treatment of reference for liposculpture
of face & body*



CE 0499

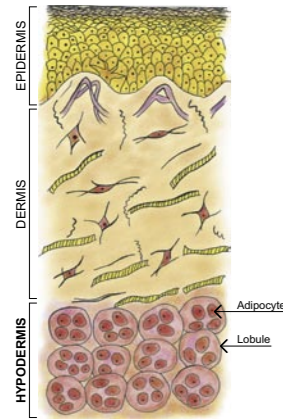
CELLULYSE

The treatment of reference for liposculpture of face & body

Better than phosphatidylcholine, no side effect!

Where does cellulite come from?

Cellulite is the development of degraded fatty tissue that frequently contains water. This disorder results from one or several factors such as poor arterial or venous circulation, hormonal disturbances and problems with lymphatic drainage.



Cellulite is due to the excessive storage of fat in the adipocytes. By becoming heavily laden with lipids, the adipocytes swell and become hypertrophic, sometimes to a high degree. The compression of the blood and lymph vessels by these fatty masses induces poor drainage of the water and stagnation of the toxins in the tissues. The resulting edema and degeneration of the fibers of the connective tissue lead to the typical irregular stippled appearance of the skin known as "orange peel appearance".

CELLULYSE has been especially designed to treat cellulite and for the liposculpture of face and body.



Indications

CELLULYSE enables treatment of the unsightly clusters of fat localised in areas that are not affected by dieting, such as the abdomen, thighs, hips, buttocks, knees, bags under the eyes and double chin.

Properties

CELLULYSE acts in 4 stages:

1 Reducing lipo-edemas

The first step in efficiently treating cellulite consists in eliminating the excess water so as to reabsorb the edema and reduce swelling. CELLULYSE contains mannitol which has a diuretic effect. As a non-metabolizable carbohydrate, it is excreted via the renal glomeruli without being absorbed by the tubules. This necessarily results in the elimination of a certain amount of water. It is used here instead of certain vegetal extracts such as *Cynara scolymus* (artichoke) which is sometimes used in phytotherapy.

2 Restoring an efficient micro-circulation

Cellulite is frequently associated with circulation problems. The adipocytes, swollen by an excessive accumulation of fat exert pressure on the arterial, venous and lymphatic networks which surround them (Fig.1).

It is therefore essential to restore an efficient micro-circulation in order to re-establish the phenomena of tissue exchange (nutritional supply, excretion of waste substances, storage and release) which ensure good tissue function. Thanks to the vasodilatory activity of PTMPB*, also called buflomedil, CELLULYSE helps to increase blood flow and therefore to irrigate and oxygenate the tissues. It restores an efficient functional micro-circulation by opening the spasmed pre-capillary sphincters at the expense of the arteriovenous shunts. Derivatives of the flavonoides such as rutin offer a particularly beneficial vasculo-protective effect in this respect. They increase the resistance of the capillaries directly by stabilizing the vascular basal membrane and indirectly by the uptake of free radicals. Thanks to its antioxidant properties, vitamin C is essential for neutralizing the effect of the free radicals generated in the newly oxygenated tissues (reperfusion syndrome).

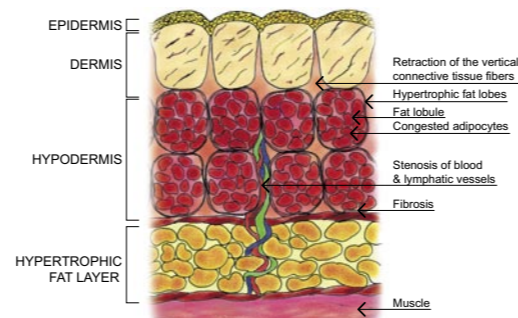


Fig.1: Cellulite

3 Lipolysis

Tween associated with γ -cyclodextrin forms an amphoteric complex which is both liposoluble and hydrosoluble. It is capable of bonding aqueous and lipidic phases which normally cannot be mixed. When carried to the adipocytes by interstitial liquids, it lyses the membrane by solubilizing the lipidic layer. The lipidic droplets contained in the cytosol of these cells are then released into the intercellular space.

Like its analogues caffeine and aminophyllin, theophyllin acts by inhibiting phosphodiesterase (PDE). This process maintains a high level of cyclic AMP, thus stimulating the natural lipolytic mechanisms of the adipocytes (Fig.2).

Once released, the short-chain fatty acids pass into the circulation while the long-chain fatty acids bind to albumin. The free fatty acids may then be used as a source of energy by all the tissues except the brain and the erythrocytes. Their degradation is particularly intense in the liver if the serum concentration is high (Fig.3).

The remaining lipid complexes are placed in suspension by the Tween γ -cyclodextrin complex to form chylomicrons which are released into the circulation via the lymphatic system. Since they are small, they are processed by the liver, and the fenestrated capillaries allow them to leave their vascular bed and pass into Disse's space.

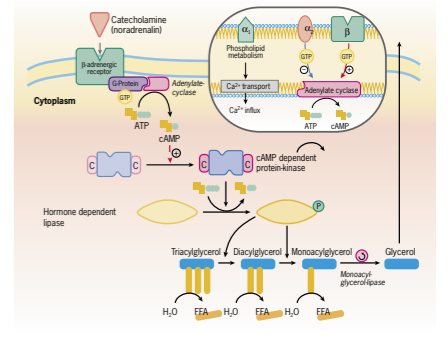


Fig.2 : Regulation of fatty acid release from adipocyte

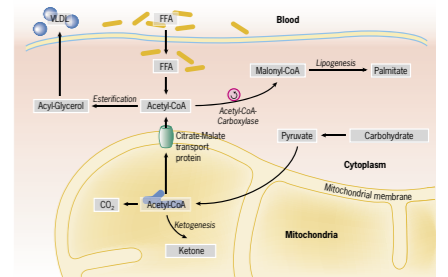
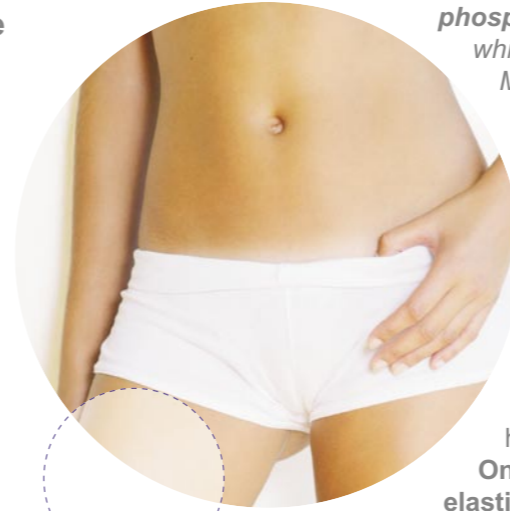


Fig.3 : Regulation of fatty acid γ -oxidation and biosynthesis in liver cells

Preference was given to this complex over phosphatidylcholine, extracted from soybeans or eggs, which carries a risk of intolerances.

Moreover, contrary to thiomucase, it does not present any destructuring effect on the connective tissues responsible for excessive sagging of the skin.



4 Restructuring and protecting the connective tissue

When efficient, the treatment of cellulite leads to a considerable decrease in the volume of fatty tissues. When fat has accumulated over a period of years, the distended connective tissue no longer possesses the elasticity required for recovering its initial tone.

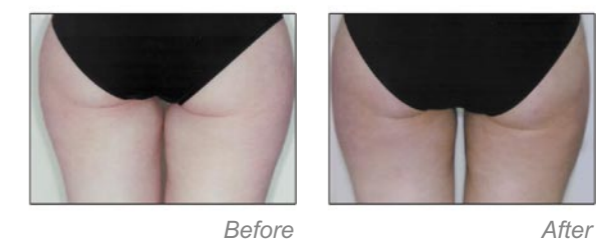
By modifying both qualitatively and quantitatively the elastin, silicium stimulates the regeneration of connective tissue. In addition, it tends to form a tri-dimensional network, hence its value in structuring these tissues.

Once regenerated and restructured, the connective tissue recovers its tone and elasticity.

CELLULIFT, as a tensile treatment for toneless and/or ptosed tissues, is particularly recommended following a treatment with CELLULYSE.

Results observed

The results observed with CELLULYSE are spectacular: a reduction of up to 15.5 cm on the abdomen and up to 5.5 cm around each thigh after just 2 months of treatment. There is a distinct attenuation of the orange peel appearance and the skin is smooth. Thanks to its concentrated formulation, the first effects can be seen as from the first session.



* PTMPB : 4-(-1-Pyrrolidiny)-1-(2,4,6-trimethoxyphenyl)-1-butanone