



OLIGO.DX® CELLULITE REDUCING GEL

150ml

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For treatment of localized fat and cellulite

**FOR TOPICAL USE ONLY. NOT FOR OPHTHALMIC,
ORAL, OR INTRAVAGINAL USE.**

DESCRIPTION

Oligo.DX is the only natural anticellulite treatment powerful enough to reduce cellulite significantly for 89 percent of women. Utilizing micropatch caffeine, a recently discovered cosmetic breakthrough, along with other technological advances, Oligo.DX reaches subcutaneous deposits of lipodystrophic cellulite and increases the bioavailability of caffeine by 114 percent, compared to free-form caffeine found in common cellulite treatments.

This feature delivers the only topical formula clinically proven to penetrate subcutaneous lobules of cellulite and dissolve lymphatic buildup significantly, to create smoother firmer thighs, buttocks, and hips.

Oligo.DX includes three more active substances: TEA-hydroiodide, lotus leaf extract (*Nelumbo nucifera*), and ivy encapsulated in nanosomes. State-of-the-art nanosome technology transports active ingredients deep into the skin where cellulite occurs. Because nanosomes are 200 times smaller than human skin cells, they penetrate subcutaneous tissue effectively, releasing active ingredients over 12–15 hours.

Main active substances are: micropatch caffeine, TEA-hydroiodide, *Nelumbo nucifera*, ivy extract.

Other components of this formulation are: water (aqua), glycerin, butylene glycol, lecithin, triethanolamine, butcherbroom (*Ruscus aculeatus*) extract, *Laminaria digitata* extract, carrageenan (*Chondrus crispus*), carnitine, escin, tripeptide-1, xanthan gum, *Acacia senegal* gum, butylene glycol, propylene glycol, propylene glycol alginate, salicylic acid, polysorbate 80, acrylates/C10-30 alkyl acrylate crosspolymer, disodium EDTA, imidazolidinyl urea, phenoxyethanol, capryl glycol, hexylene glycol.

MICROPATCH CAFFEINE

Oligo.DX utilizes the most bioavailable form of caffeine. Micropatch caffeine outperforms standard caffeine by 68 percent, to penetrate deeper layers of skin and localized fat deposits. Due to nanosome technology, this caffeine persists within those tissues for 12–15 hours. These advanced features place it in the forefront of cosmetics.

Cellulite was considered a natural process in women, so medical science failed to search for a solution. But new discoveries have been made in the pathogenesis of cellulite, among them micropatch caffeine.

Unlike the form of caffeine used in typical cellulite products, innovative micropatch caffeine sets a new standard for natural cellulite elimination. Caffeine, known for its ability to stimulate localized fat cells, has long been considered an essential ingredient to reduce cellulite, but its ability to penetrate subcutaneous tissue was limited.

Oligo.DX changes this equation. Unlike the free form of caffeine, the micropatch form penetrates lower layers of skin at a rate 68 percent higher. This potentiated activity ensures that anticellulite properties reach fat deposits and begin eliminating cellulite immediately. Micropatch caffeine is the only form proven to penetrate cellulite-affected areas quickly and then stay. Studies show micropatch caffeine persists in the skin at a rate 114 percent greater than the caffeine found in common products, so its properties are not eliminated by the body, but rather retained subcutaneously to act against cellulite.

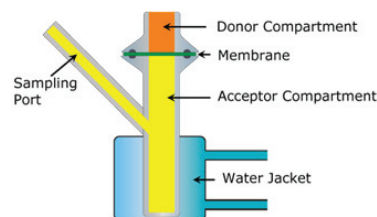
MICROPATCH CLINICAL STUDIES

Micropatch caffeine was developed to high standards in France, then tested and approved by DS Laboratories. Clinical trials to determine the rate of percutaneous penetration of micropatch caffeine have been conducted with Franz cells and human

cell biopsies, comparing the kinetics of micropatch versus free-form caffeine.

Fragments of human skin were inserted into Franz cells and the quantity of caffeine bound to skin cells measured via ultrasonic extraction after 24 hours. Results proved micropatch caffeine to be far superior at targeting and eliminating cellulite. Meanwhile, free-form caffeine diffused immediately, meaning that standard caffeine products just pass through the body without working to eliminate cellulite.

Micropatch caffeine proved strong enough to penetrate lower layers of skin by 68 percent and remain in the body by 114 percent, compared to free-form caffeine. Micropatch caffeine is the only natural ingredient powerful enough to penetrate cellulite and dissolve lymphatic buildup significantly, revealing smoother firmer thighs, buttocks, and hips.



Franz-cell study depicting caffeine's bioavailability in its free form versus its micropatch form.

TEA-HYDROIODIDE

Oligo.DX exerts additional therapeutic action against cellulite because the product also incorporates an iodine compound, TEA-hydroiodide (triethanolamine hydroiodide), chemically classified as an amide.

This triethanolamine salt is known to convey effective lipolytic properties by stimulating lipases — enzymes that break down fats and lipoproteins, usually into fatty acids and glycerol. Mineral salts can boost metabolism and cause an increase in osmotic exchange, thus eliminating much of the excess fluids of cellulite.

Cosmetology often employs TEA-hydroiodide in topical solutions to condition skin, but compounds have to reach their sites of action at appropriate concentrations — as achieved through advanced nanosome technology — for efficacy to be realized.

TEA-hydroiodide is derived naturally from abundant marine plants and algae. Compared to terrestrial flora, marine sources may contain a thousand times more iodine, a hundred times more calcium, and ten times more magnesium and copper.

Employment of TEA-hydroiodide in Oligo.DX means breaking down more of those fats, improving vascular and lymphatic circulations, detoxifying tissues, and eliminating excess fluids. So the surfaces of buttocks and thighs appear noticeably smoother and more attractive.

NELUMBO NUCIFERA (LOTUS) LEAF EXTRACT

Nelumbo nucifera (lotus leaf) is the latest natural compound discovered with extraordinary anticellulite activity. *Nelumbo nucifera* acts through multiple pathways, addressing the many variables of cellulite. It activates lipolysis to reduce fat storage, inhibits the activity of MMPs (pro-inflammatory factors), and restores the homeostasis of adipocyte tissue. In addition to its anti-cellulite effect, Lotus leaf has a very strong overall slimming effect on thighs and abdomen. Please **turn to page 3** to see the complete study.

IVY EXTRACT

Ivy is an evergreen plant native to western, central, and southern Europe. The leaf extract contains hederine, an active saponin, which is responsible for blood vessel protection and decreased permeability. These properties help to reabsorb edemas present in the initial stages of cellulite.

Another major function of this herb is its ability to relieve congestion in the lymphatic system and to make lipids soluble, so fat deposits can be circulated back through the blood stream, used as a source of energy or eliminated. The benefit is a reduction in cellulite and stretch marks.

NANOSOME TECHNOLOGY

Nanosome technology enables a ground-breaking delivery system. Structurally similar to human cell membranes, nanosomes applied topically penetrate and merge with the

Turn to page 2.

From page 1.

NANOSOMES vs. LIPOSOMES		
Stable at room temperature:	✓	✗
Can be applied to a wide range of pH formulations:	✓	✗
Concentration per gram:	12 trillion particles	1 billion particles
High concentration of active particles by the time you take it home:	✓	✗

skin to release active ingredients slowly over several hours. DS Laboratories formulates these proprietary nanosomes to exceed by far the absorption capabilities of common liposomes used in mass-market products.

Nanosomes are microscopic vesicles almost identical to human cell membranes. They work to mimic human skin by delivering vitamins, drugs, and cosmetic treatments to target cells. Nanosomes are 200 times smaller than human cells, capable of penetrating even the deepest layers of skin. Patients achieve the highest, most advanced, longest lasting delivery of active ingredients for superior results.

CAUSES OF CELLULITE

Cellulite in the gluteal-femoral region can result from genetic predisposition, hormonal disturbance, inappropriate diet, or sedentary lifestyle. An unsightly orange-peel appearance develops as small lobules of subcutaneous adipose tissue press into the dermis.

The excess fat, along with structural alterations of the extracellular matrix, restrict the skin's venous system, thus its circulation, nutrition, and oxygenation as well. Fat and fluids continue to build up, launching a vicious cycle of reduced lymphatic drainage, slowed metabolism, and increased fat retention.

In women, localized fat and fluids cause the skin to expand, producing cellulite. In men, the affected area swells more evenly. Over time, several skin layers may become effected and unhealthy, with inflammation, even pain.

HOW IT WORKS

Oligo.DX Cellulite Reducing Gel achieves clearly visible improvement because its concentrated active extracts work to dissolve fat, improve microcirculation, and eliminate fluids.

The pleasant gel stimulates production of lipase enzymes that speed fat digestion and reduce pressure on blood and lymphatic vasculature. Natural drainage of fat, fluids, and trapped toxins can then occur through the enhanced circulatory and lymphatic systems.

Oligo.DX also rebuilds skin tissue, tightening tone and increasing elasticity. After just a few weeks of consistent use, blood and lymphatic circulation improves, alleviating aches and pains, and leaving the skin surface smoother and firmer.

METHOD OF ACTION

Evidence suggests that nanosome-encapsulated active ingredients in Oligo.DX, especially micropatch caffeine, treat cellulite deposits so effectively because they break down fats, stimulate microcirculation, and eliminate fluids, although every method of action is not understood fully.

CLINICAL STUDIES

In a placebo-controlled trial, daily use of Oligo.DX for six weeks decreased the appearance of cellulite in 100 percent of subjects, while women in the placebo group observed no change in cellulite.

In another trial, 68 percent of women experienced dramatic improvement in appearance of cellulite and 89 percent reported significant improvement. Clinical observation has shown a 1–4-inch reduction in localized fat deposits, as well as a smoother and healthier skin appearance.

TIPS

Patients should monitor skin appearance closely and take body measurements at regular intervals to confirm results. During treatment, avoid moisturizers and moisturizing soaps because they can interfere with absorption.

WARNINGS

Nursing mothers: It is not known whether Oligo.DX is passed through breast milk, although some ingredients may be absorbed by bodily fluids. Exercise caution when administering Oligo.DX to nursing women.

Pregnant women: Oligo.DX should not be used by women who are pregnant.

QUESTIONS AND ANSWERS

Q: How long does it take for **results** to appear?

A: Changes in skin texture can be seen after the first week of treatment. Skin becomes smoother and lymphatic fluid buildup decreases significantly. In most cases, observers notice results including slimmer appearance by the end of the first month. Treat daily for at least two months. If you wish to continue for a longer period, there is no restriction.

Q: Are results achieved **more quickly** if the gel is used more than once a day?

A: Nanosomes in Oligo.DX Cellulite Reducing Gel act continually for 12–15 hours and provide successful results with just one application daily. For more dramatic results, users can apply Oligo.DX up to twice daily.

Q: How is Oligo.DX effective without **massage**?

A: Massage is not necessary because nanosomes help the active ingredients to penetrate skin quickly and deeply.

Q: Can **cellulite return** once treatment is stopped?

A: Yes. Oligo.DX ensures prolonged results, but a sedentary lifestyle or unbalanced diet increases the likelihood of relapse.

Q: How long does it take to eliminate cellulite?

A: Most people obtain satisfactory results after 60 days of continuous treatment and gradual loss, although the length of treatment varies depending on the individual.

Q: Can Oligo.DX be used on the **face**?

A: No. The face is more sensitive than the body. The gel is developed for the body, not the face.

Q: Why do some women become **slimmer quicker**?

A: Each human body responds in a different way at a different rate. Studies show that women with more localized fat tend to slim quicker than those with less.

Q: Why is it more difficult to get the **abdomen** in shape?

A: In the abdomen, muscle slackness can occur as a result of sedentary lifestyle, surgery, or pregnancy. Loose musculature, not localized fat, often results in flabbiness confused for fat. This is also the reason many people do not become slimmer in the waist after a diet.

Q: After starting treatment with Oligo.DX, I began to **urinate darker** liquid more frequently. Is this normal?

A: Yes. Toxins, fluids, and digested fats are eliminated naturally through the urine by the stimulative effect of the gel, resulting in the urge to urinate more frequently and the change in urine color.

Q: Why should I avoid body **moisturizers** and moisturizing soaps on treated areas? What soap is best?

A: Moisturizing products leave a residue that interferes with absorption of nanosomes, thereby reducing efficacy. Neutral soaps, ones containing glycerin, and most soaps that do not contain moisturizers are recommended.

Q: Does Oligo.DX cause **weight loss**?

A: The gel fights against cellulite, improving women's figures, but is not claimed to cause overall weight loss. The gel helps to dissolve localized deposits that diets and exercise cannot burn, like spots on the back, stomach, and knees, as an alternative to more aggressive treatments such as liposuction.

Q: Does Oligo.DX cause **allergic reaction** or irritation?

A: Oligo.DX is hypoallergenic, which means it does not cause allergic reaction in most users. If irritation does occur, stop using the product and seek medical advice.

Q: The second time I bought Oligo.DX I noticed it was a **different color**. Is this normal?

A: Yes. Plant extracts vary in color depending on harvest. Color changes in Oligo.DX are noticeable due to its high concentration of natural plant extracts and its lack of artificial coloring agents.

Q: Does Oligo.DX have any **contraindications**?

A: Yes. Pregnant or breastfeeding women are recommended not to use the gel.

Q: How does Oligo.DX **relieve aches and pains** in the legs?

A: The gel stimulates blood and lymphatic circulation, so it reduces the accumulation of fluids in the lower extremities, providing relief. ■

SLIMMING EFFECT OF NELUMBO NUCIFERA (LOTUS) LEAF EXTRACT

MATERIAL AND METHODS

Cell culture

3T3 F44-2A preadipocytes were inoculated in DMEM (Dulbecco's modified Eagle's medium) (Gibco, Cat. No. 31966) supplemented with 10% donor calf serum (DCS) (Gibco, Cat. No. 16030). The cells were then incubated for 4 days at 37°C in an incubator containing 5% CO₂. Differentiation of preadipocytes was induced by replacing the preadipocyte culture medium with DMEM supplemented with 10% fetal calf serum (FCS) (Gibco, Cat. No. 10270), antibiotics, 50 nM insulin (Sigma, Cat. No. I-5500), 10⁻⁶ M biotin (Sigma, Cat. No. B-4639) and 1% (v/v) antibiotics (streptomycinpenicillin) (Gibco, Cat. No. 15070).

The cells were then incubated at 37°C in an incubator containing 5% CO₂. The medium was renewed every other day, and daily if there was acidification.

Lipolytic activity of mature adipocytes

After 8 days of culture (complete differentiation), the medium was discarded and replaced with DMEM containing 2% FCS and antibiotics but without insulin. The next day, the cells were rinsed with PBS without Ca²⁺ and Mg²⁺ and the medium was replaced with 2 ml of KRBA solution (Krebs-Ringer-Bicarbonate-Albumin) per well.

The plates were incubated for 15 minutes at 37°C in an incubator containing 5% CO₂. The lotus extract (0.10%, 0.25%, 0.50% and 1%) or caffeine (37.5 g/l at 2%) used as positive control was added to the corresponding wells and incubated for 120 minutes at 37°C in an incubator containing 5% CO₂. Non-esterified fatty acids (NEFA) were assayed at 550 nm with the NEFA C colorimetric kit (Wako, Cat. No. FR46551).

SIRT-1 and adiponectin synthesis

The cells were treated with 0.25%, 0.50% lotus extract and then incubated for 3 days at 37°C in an incubator containing 5% CO₂. The treatment was repeated and after 2 days of incubation, the cell-free extracts were recovered and stored at -80°C before assaying total proteins with a BCA kit (Sigma, cat. No. BCA1). SIRT-1 and adiponectin proteins were then assayed by Western blot.

SIRT-1: Electrophoresis was on a 12% polyacrylamide/SDS gel (15 µg of proteins deposited). Transfer was to an Immobilon P membrane (Millipore, IPVH 15150). The membrane was incubated with a murine anti-SIRT-1 antibody, then HRP-coupled anti-murine IgG antibody.

Adiponectin: Electrophoresis was on a 15% polyacrylamide/SDS gel (30 µg of proteins deposited). Transfer was to an Immobilon P membrane (Millipore, IPVH 15150). The membrane was incubated with a rat anti-adiponectin antibody, then HRP-coupled anti-IgG rat antibody. The visualisation system was peroxidase substrate and chromogen solution. Bands were semi-quantified by densitometry after image analysis with BIO PROFIL software (Bio1D, Vilber Lourmat France).

MMP activities

The cells were treated with 0.25%, 0.50% and 1% lotus extract or 1mM captopril used as positive control and then incubated for 3 days at 37°C in an incubator containing 5% CO₂. The treatment was repeated and after 2 days of incubation, the cell-free extracts were recovered and stored at -80°C before assaying total proteins with a BCA kit (Sigma, cat. No. BCA1). MMP-2 and MMP-9 activities were assayed by zymography. An 8% polyacrylamide/SDS gel containing 1 mg/ml of gelatin was prepared. Samples (about 35 µg of proteins) were mixed (1/1, v/v) with Laemmli buffer, deposited on the gel and separated by electrophoresis.

After incubation in 2.5% (v/v) Triton X-100 buffer, the gel was incubated at 37°C in 50 mM Tris-HCl buffer, pH 7.6, containing 5 mM CaCl₂, 200 mM NaCl and 0.02% Brij 35. The gel was then stained with Coomassie Blue G250 (Sigma, Ref. B-1131) and de-stained by successive baths in an acetic acid/methanol/water mixture (10/20/70). Gelatinolytic activity is shown by clear bands (lysis of gelatin) at about 64-72 kDa for MMP-2 and about 92 kDa for MMP-9, while non-hydrolysed gelatin remains blue. These lysis bands were semi-quantified by densitometry after image analysis with BIO PROFIL software (Bio1D, Vilber Lourmat-France).

Recombinant MMP-2 (R&D Systems, Cat. No. 902.MP010) and recombinant MMP-9 (R&D Systems, Cat. No. 911.MP010) were used as controls.

Study of the slenderising effect in vivo

The slenderising effect of the lotus extract formulated at 4% in an emulsion or the placebo was determined by measuring thigh circumference after 28 days and abdo-

men and hip circumference after 56 days of twice-daily applications. The study was conducted on 20 healthy female volunteers (mean age 43 ± 11 years) for thigh circumference and on 41 volunteers (mean age 41 ± 10 years) for abdomen and hip circumference divided into two groups, having applied either the lotus extract or the placebo emulsion.

Volunteers were selected according to their body mass index (BMI), that had to be between 21 and 26, and the visual presence of cellulite for thigh measurement.

Study of the anti-cellulite effect in vivo

The effect of lotus extract formulated at 4% on cellulite and on the surface irregularities it caused was studied vs. placebo by scoring with a photographic scale (Fig. 3) and by subjective evaluation. Photographs of a zone on the exterior of the thigh were taken before and after 28 days of twice-daily treatment. In order to accentuate surface irregularities caused by the cellulite, a system of controlled pinching was developed in order to apply a standard pressure on the studied zone.

The sensations felt when the volunteers used lotus extract or the placebo were then gathered using a self-evaluation questionnaire. The study was conducted on 20 healthy female volunteers between 25 and 63 years of age (mean age 43 ± 11 years) selected according to the two criteria described above.

RESULTS

Increased lipolytic activity of mature adipocytes

Tested from 0.1% to 1%, the lotus extract significantly increased the lipolytic activity of fat cells with a dose-dependent effect (Fig. 4). At 0.25%, lotus extract significantly favoured the lipolytic activity by 821% that was comparable to the effect of caffeine (+678%). Lotus extract thus increased the hydrolysis of triglycerides in the lipid compartment of differentiated adipocytes thereby promoting the elimination of lipids stored in adipose cells.

Reduction of adipogenesis via the stimulation of SIRT-1 synthesis

The capacity of the lotus extract to inhibit the process of preadipocyte differentiation into mature adipocytes was determined by assaying the synthesis of SIRT-1, the calorie restriction gene. The addition of 0.25% and 0.50% lotus extract to the preadipocyte culture medium during their differentiation increased the synthesis of SIRT-1 by respectively 6% and 22%. The lotus extract thus limited the conversion of preadipocytes into mature adipocytes that can accumulate lipids in their lipid compartment.

Reduction of the inflammation of the adipose tissue via the stimulation of adiponectin synthesis

The capacity of the lotus extract to limit the inflammatory profile of the adipose tissue was investigated by studying the synthesis of adiponectin, an antiinflammatory hormone secreted by adipose cells. The addition of 0.25% and 0.50% lotus extract to the preadipocyte culture medium during their differentiation increased significantly the synthesis of adiponectin by respectively 16% and 33% thereby reducing the inflammatory state of the adipose tissue.

Reduction of the degradation of the adipose tissue matrix by limiting MMP-2 and MMP-9 activities

Tested at various concentrations, the lotus extract tended to reduce MMP-2 activity and significantly decreased MMP-9 with a dose-dependent effect (Fig. 5). Tested at 1% on preadipocytes during their differentiation process, the lotus extract decreased the activity of MMP-2 and MMP-9 by respectively 27% and 73%. These effects were compared to that of captopril, a well-known inhibitor of MMPs that reduced respectively the MMP-2 and MMP-9 activities by 74% and 40%. The lotus extract thus limited the degradation of the connective tissue of the hypodermis.

Favouring a reduction in thigh, abdomen and hip circumference

After 28 days of twice-daily applications without losing weight, the volunteers lost an average of 0.4 cm (P=0.0493) on the thigh treated with lotus extract formulated at 4% and of 0.1 cm (P=0.3292) on the side of placebo. After 56 days of twice applications, the abdominal circumference was significantly reduced by 1.6 cm (P=0.0001) for the volunteers applying the lotus extract treatment while it increased by 0.4 cm (P=0.1723) for the volunteers applying the placebo. Finally, the hip circumference of the volunteers testing the lotus extract formula was also significantly reduced (-1.3 cm, P=0.0021) while it was only reduced by 0.4 cm (P=0.0738) after the placebo treatment.

All the circumference variations observed after the lotus extract treatment were significant in comparison with those obtained after the placebo treatment. The maximal reduction observed was 2 cm for thighs, 5 cm for the abdomen and 4.5 cm for the hips (Table 1).

Anti-cellulite properties presented

Scoring with the photographic scale: In the conditions of this study, after 28 days of twice-daily applications, lotus extract formulated at 4% vs. placebo led to a significant reduction (-19%, $P=0.0041$) of surface irregularities resulting from the presence of underlying cellulite. This effect was observed in 68% of the volunteers and it is illustrated in Figure 6. Lotus extract treatment thus improved the visual appearance of the skin.

Subjective evaluation: After 1 month of twice-daily use, the volunteers felt that their skin was significantly smoother and that the orange peel skin appearance as well as the cellulite decreased on the thigh treated with lotus extract formulated at 4% in comparison with the side treated with the placebo (Fig. 7).

CONCLUSION

Tested in vitro on preadipocytes during their differentiation into mature adipocyte, lotus extract presented a powerful lipolytic activity. It also stimulated the synthesis of SIRT-1 (+22%), the calorie restriction gene that limits the adipogenesis process. The capability of lotus extract to inhibit MMP-2 (-27%) and MMP-9 (-73%) activities allowed a reduction of adipose connective tissue degradation and a limitation of the matrix and vascular remodelling necessary for adipose tissue development.

Finally, lotus extract significantly stimulated adiponectin synthesis (+33%) thereby reducing the inflammatory state of adipose tissue. By promoting the reduction of stored fat and restoring the homeostasis of the adipose tissue, lotus extract had an overall slimming effect.

Tested directly on volunteers for 28 days of twice-daily treatment, lotus extract formulated at 4% significantly reduced surface irregularities (-19%, $P=0.0041$) linked to the presence of underlying cellulite. This anti-cellulite effect was perceived significantly by the volunteers in a subjective assessment of the product against placebo and confirmed by clinical assessment.

Furthermore, a contact thermography study of thermal variations in cellulite areas showed that lotus extract at 4% promoted the drainage of cellulite areas by reducing the oedematous areas by 29% ($P=0.0029$) after 28 days of twice-daily treatment and in comparison with the placebo treatment (results not shown).

Finally, it promoted a significant reduction of thigh circumference (-0.4 cm on average) after 28 days of twice-daily treatment, of abdomen circumference (-1.6 cm on average) and hip circumference (-1.3 cm on average) after 2 months of treatment. These effects were significantly different from those of the placebo.

Thanks to its anti-inflammatory properties and its capacity to restore the homeostasis of adipose tissue, the lotus extract improved adipose tissue function and limited water retention thereby improving the visual appearance of the skin orange peel effect.

REFERENCES

- 1 Ajuwon K.M., Spurlock M.E. Adiponectin inhibits LPS-induced NF- κ B activation and IL-6 production and increases PPAR-g2 expression in adipocytes. *Am J Physiol Regul Integr Comp Physiol*, 288: 1220-1225 (2005).
- 2 Bouloumié A., Curat C.A., Sengenès C., Lolmède K., Miranville A., Busse R. Role of macrophage tissue infiltration in metabolic diseases. *Curr Opin Clin Nutr Metab Care*, 8: 347-354 (2005).
- 3 Bouloumié A., Sengenès C., Portolan G., Galitzky J., Lafontan M. Adipocyte produces matrix metalloproteinases 2 and 9, involvement in adipose differentiation. *Diabetes* 50: 2080-2086 (2001).
- 4 Callaghan T., Wilhelm K.P. An examination of non-invasive imaging techniques in the analysis and review of cellulite. *J Cosmet Sci*, 56, 379-393 (2005).
- 5 Canello R., Henegar C., Viguerie N., Taleb S., Poitou C., Rouault C., Coupaye M., Pelloux V., Hugol D., Bouillot J.L., Bouloumié A., Barbatelli G., Cinti S., Svensson P.A., Barsh G.S., Zucker J.D., Basdevant A., Langin D., Clément K. Reduction of microphage infiltration and chemoattractant gene expression changes in white adipose tissue of morbidly obese subjects after surgery-induced weight loss. *Diabetes*, 54 (8): 2277-2286 (2005).
- 6 Canello R., Clément K. Is obesity an inflammatory illness? Role of low-grade inflammation and macrophage infiltration in human adipose tissue. *BJOG*, 13; 113 (10): 1141-1147 (2006).
- 7 Clément K., Viguerie N., Poitou C., Carette C., Pelloux V., Curat C.A., Sicard A., Rome S., Barsh G.S., Basdevant A., Stich V., Canello R., Langin D. Weight loss regulates inflammation-related genes in white adipose tissue of obese subjects, *FASEB Journal*, 18, 1657-1669 (2004).
- 8 Croissandeau G., Chrétien M., Mbikay M. Involvement of matrix metalloproteinases in the adipose conversion of 3T3-L1 preadipocytes. *Biochem J*, 364, 739-746 (2002).
- 9 Fantuzzi G. Adipose tissue, adipokines, and inflammation. *J Allergy Clin Immunol*. 115 (5): 911-919 (2005).
- 10 Guerre-Millo. L'adiponectine détrônere-t-elle la leptine? *Médecine Sciences*, 17: 1353-1354 (2001).
- 11 Lacquemant C., Vasseur F., Leprêtre F., Froguel P. Cytokines d'origine adipocytaire, obésité et développement du diabète. *Médecine Sciences*, 19: 808-817, (2003).
- 12 Picard F., Kurtev M., Chung N., Topark-ngarm A., Senawong T., Machado de Oliveira R., Leid M., Mcburney M.W., Guarente L. Sirt1 promotes fat mobilization in white adipocytes by repressing PPAR-g. *Nature*, 17, 429, 771-776 (2004).
- 13 Terranova F., Berardesca E., Maibach H. Cellulite: nature and aetiopathogenesis. *International Journal of Cosmetic Science*, 28, 157-167 (2006). ■



L A B O R A T O R I E S

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