Body

Patent n°:WO 2008/015639

VOLUFILINE™

Sarsasapogenin

Function:
Helps promote body volume by a cosmetic lipofilling-like effect.

Definition:
Sarsasapogenin extracted from the roots of Asian botanical *Anemarrhena asphodeloïdes,* in an oil-soluble excipient.
PRESERVATIVE FREE

Properties:
Volufiline™ helps stimulate adipocyte differentiation and proliferation, and promotes lipid storage leading to an increase of adipocyte volume in the fatty tissue.

Characteristics:
The mechanism of action of sarsasapogenin is elucidated by DNA-array technique. Sarsasapogenin activates the differentiation pathway (PPARγ,COPS3, COPS5), stimulates lipid storage through the glucose/ fructose pathway (adipophilin, SLC2A5, GLUT5) and promotes fatty tissue setting among the extra cellular matrix (LOX, ECM2).

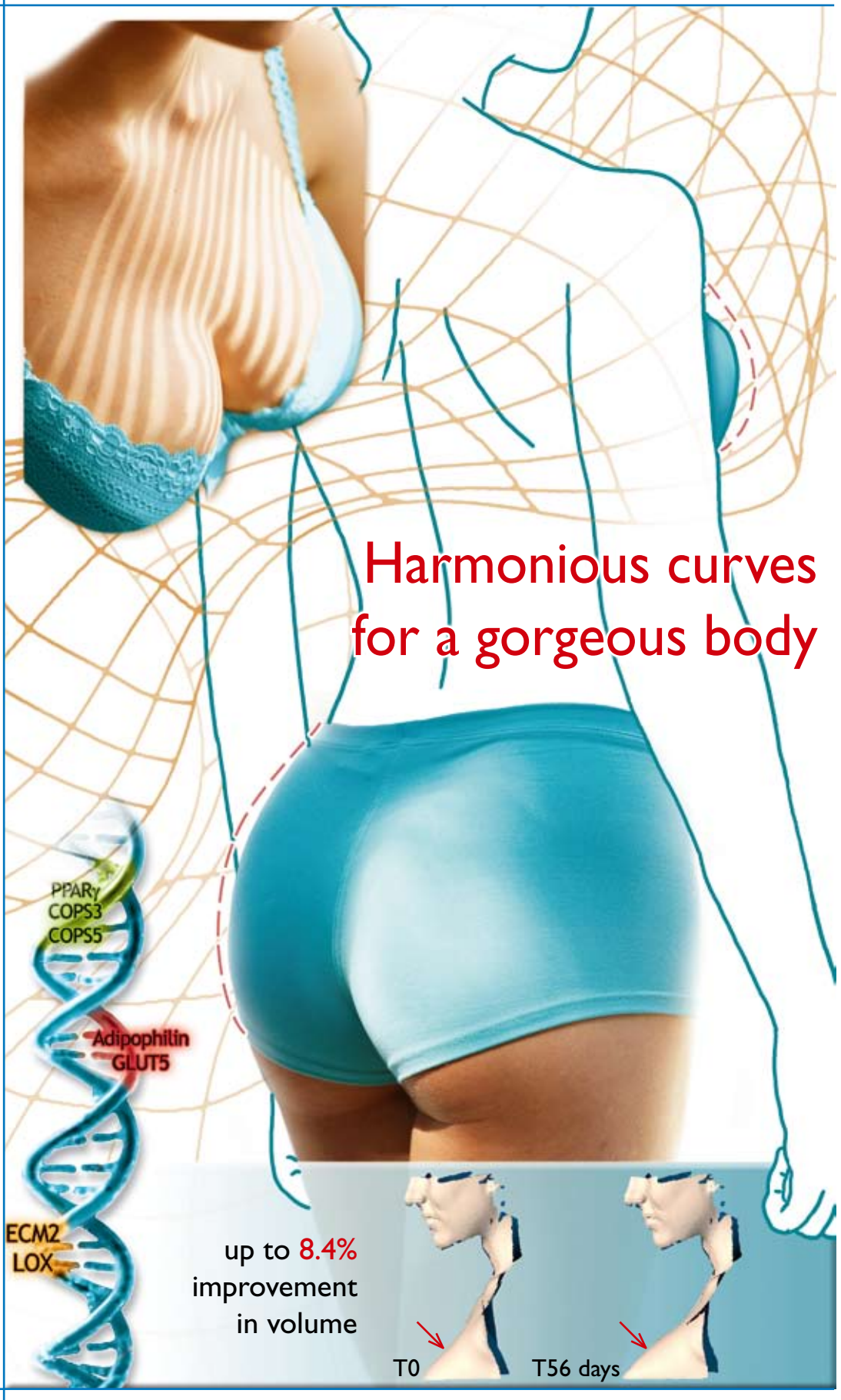
Point of interest:
Sarsasapogenin is a phytosterol with no hormonal activity.

INCI name:
(Check CTFA on-line dictionary for latest INCI name)
Hydrogenated Polyisobutene – Anemarrhena Asphodeloides (Root) extract.

Applications:
Bodycare treatments for breasts, buttocks, hands and cheeks.

Formulation:
Oil soluble. For formulation restrictions check with Sederma.

Recommended use level:
5%



sederma

Member of Croda International Plc

www.sederma.fr E-mail: sederma@sederma.fr

Claim substantiation

October 2006

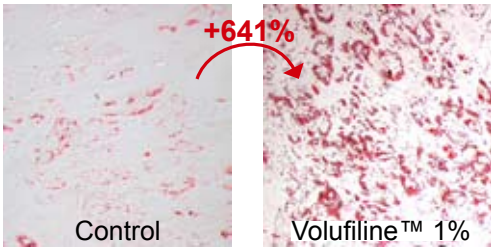
In vitro tests

The activity of Volufiline™ (concentration 1% eq to sarsasapogenin 10µM) is evaluated on cultures of pre-adipocytes and adipocytes (3T3-L1).

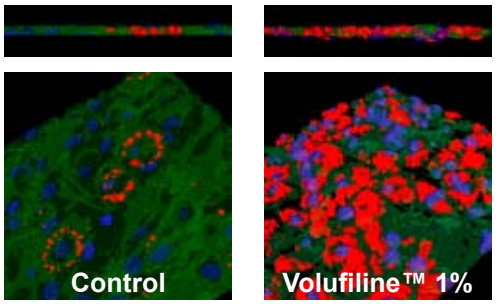
- **Pre-adipocyte differentiation** ····· **+201%**
  Measurement of the differentiation marker G3PDH activity
- **Adipocyte proliferation** ····· **+32%**

Lipid storage

Red coloration of lipids in human adipocytes.



Adipocyte volume

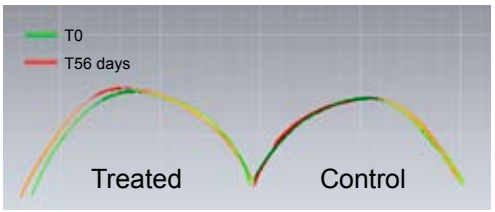


3D visualization of adipocytes
Red = lipid vesicle
Blue = nucleus
Green = cytosol

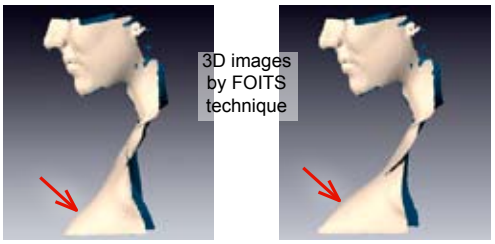
Cell volume increases X 22 times with Volufiline™ 1%

In vivo tests

30 women (bra cup size 30-30A or 34AA) aged 18 to 35 years applied twice daily on one breast a gel cream containing 5% of Volufiline™ for 56 days. Breast plumping was evaluated by FOITS.



Volufiline™ 5%	treated side	non-treated side
mean variation after 28 days	+1.4% p=0.3	-0.1%
1st quartile	+6.6%	-6.4%
mean variation after 56 days	+2.2% p=0.1	+0.9%
1st quartile	+8.4%	-2.0%



Formulation

Décolleté Plumping Emulsion with VOLUFILINE™

Indicative formula ref.: SED0512550H

Part A	%
Dionised water	qsp 100
Ultrez 10 *(Carbomer,Noveon)*	0.40
Part B	**%**
Glycerin	3.00
Preservative	0.30
Part C	**%**
Crill 3 *(Sorbitan Stearate, Croda)*	2.00
Crodaderm S *(Sucrose Polysoyate, Croda)*	2.00
Marcol 82 *(Mineral Oil)*	2.00
Cithrol GMS AS/NA *(Glyceryl stearate & PEG 100 stearate, Croda)*	3.00
Part D	**%**
VOLUFILINE™ *(Sederma)*	5.00
Part E	**%**
Potassium sorbate	0.10
Part F	**%**
Sodium hydroxyde 30%	0.40
Deionised water	4.00
Part G	**%**
Parfum	0.10

Protocol: Weigh Part A and let swell Ultrez for 30 minutes. Then heat in water-bath 75°C. Weigh Part B, and heat until dissolution. Add Part B in Part A, and homogenize. Weigh Part C and heat in water-bath 75°C. Weigh Part D and add in Part C, homogenize well. Pour Part C+D in Part A+B under stirring v=300rpm, homogenize well. Add Part E, homogenize well. Neutralize with Part F at about 55°C, homogenize well. Add Part G at about 35°C, homogenize well, check pH.

Non-warranty:
This formulation has been subjected to limited stability tests and has been shown to perform well. However formulators adopting this approach should ensure to their own satisfaction long term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.

Sederma Inc. email: sederma-usa@croda.com - www.crodausa.com tel.: 732-692-1652 fax: 732-417-0804