



# adifyline™

Perfect curves against gravity

## Stimulates adipogenesis



### Description

Hexapeptide that increases fatty tissue volume in specific areas improving facial appearance and providing attractive body curves. **adifyline™** stimulates Peroxisome proliferator-activated receptor Gamma Coactivator 1 $\alpha$  (PGC-1 $\alpha$ ) expression, enhancing adipogenesis rate. This leads to a higher lipid accumulation and volume growth in the desired areas like breast and cheeks.

### Appearance

Transparent solution containing 0.05% active ingredient.

### INCI

Butylene Glycol, Water (Aqua), Acetyl Hexapeptide-38.  
Preservative free.

### Properties

A volume increase in the adipose tissue in the desired areas results in a good-looking appearance. **adifyline™** stimulates PGC-1 $\alpha$  expression, rising adipogenesis rate and lipid accumulation.

### Dosage 2%

### Solubility

Soluble in water, ethanol and glycols.

## Increases cheek volume

## Provides a curvy silhouette

### Science

When aging, skin gets thinner, loses firmness and gravity pulls it downwards leading to undesired and visible changes in the face and body. Furthermore, adipose tissue, which is mostly found beneath the skin and acting as a supporting tissue, gets redistributed and decreases in areas like cheeks, facial oval, breasts or hands. Nowadays, the relevance of perfect curves in the face and body make people look for efficient and non-aggressive ways of increasing tissue volume.

PGC-1 $\alpha$  is a transcriptional coactivator that, interacting with the Peroxisome Proliferator-activated Receptor PPAR $\gamma$ , modulates adipogenesis rate.

**adifyline™** increases local volume improving facial appearance and providing a curvy silhouette, by promoting PGC-1 $\alpha$  expression and lipid accumulation in the adipose tissue.

### Applications

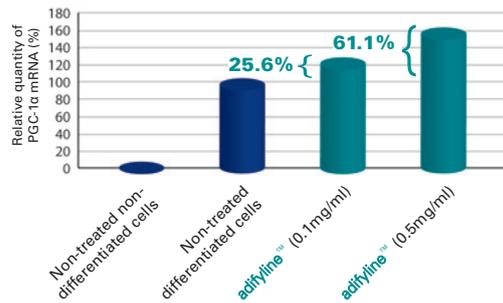
**adifyline™** can be incorporated in facial redefining or breast firming formulations, and in any product where a replenishing effect is desired.



# In vitro efficacy

## 1. EFFECT ON PGC-1α EXPRESSION

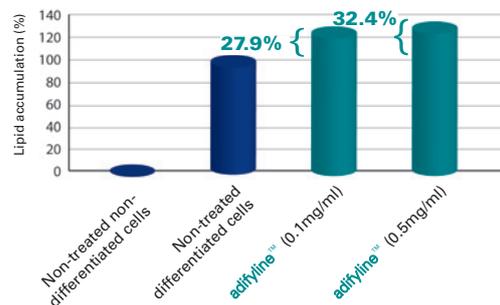
Human preadipocytes were incubated in a growth medium and differentiated with Preadipocyte Differentiation Medium (PDM-2) in presence of **adifyline™**. After 10 days, cells were lysed, RNA was extracted and reverse transcription was performed. The resulting cDNA was analysed by quantitative RT-PCR.



adifyline™ promoted PGC-1α expression by more than 61%

## 2. EFFECT ON LIPID ACCUMULATION

**adifyline™** was added to human preadipocytes differentiated with Preadipocyte Differentiation Medium (PDM-2). After 10 days, levels of intracellular lipid droplets were measured by fluorescence.

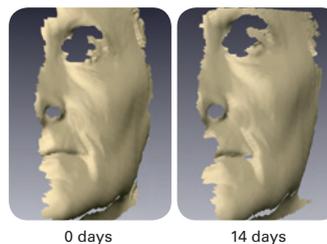
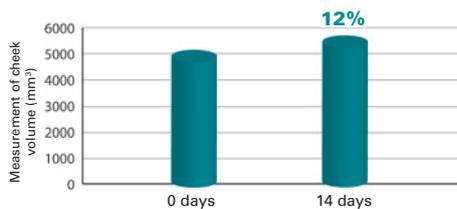


Lipid accumulation was higher in cells treated with **adifyline™**

# In vivo efficacy

## 1. FACIAL VOLUME INCREASE

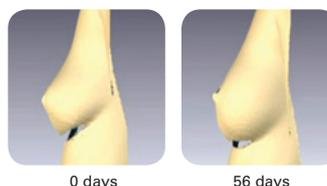
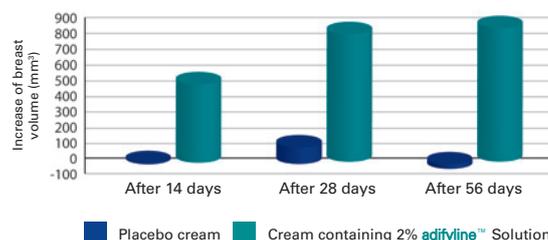
A group of 22 female volunteers (aged between 50 and 60) applied a cream containing 2% **adifyline™** Solution on the cheeks twice a day for 14 days. The cheek volume was analysed by Fringe Projection at the end of the study. This technique allows the direct acquisition of the morphology of the studied area in 3D, being able to obtain the volume in mm<sup>3</sup>.



Cheek volume increased by 12% after 14 days with **adifyline™**

## 2. BREAST VOLUME INCREASE

**adifyline™** was tested on a group of 22 women aged 25 to 40 with a bra cup size between 80 and 90. A cream containing 2% **adifyline™** Solution was applied on a breast and the placebo on the other, twice a day for 56 days. Measurements of breast volume were taken at day 14, 28 and 56 using the FOITS technique.



**adifyline™** improved breast volume by 30-fold compared to placebo after 56 days

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