Bermuda
Atlantic Ocean

actigym™

marine ingredient

A secret personal trainer

in-cosmetics ASIA Innovation Zone Best Ingredient Award 2014 GOLD

Endurance training-like effect

Increase of *in vitro* adiponectin release

Improved results when combined with body and facial exercises

DESCRIPTION

Active ingredient obtained through biotechnology from a microorganism located in Bermuda. **actigym**™ *marine ingredient* mimics the effect of endurance exercise training by increasing adiponectin release and mitochondrial activity. It improves the appearance of body, double chin and facial contour definition that can be further complemented with exercise.

APPEARANCE

Transparent solution containing 0.07% Bacillus/Soybean Ferment Extract.

INCI

Glycerin, Water (Aqua), Bacillus/Soybean Ferment Extract.

USE LEVEL

5%

SOLUBILITY

Water soluble.

SCIENCE

It's undeniable that exercise helps improve your quality of life. Endurance training involves low intensity effort for extended periods of time and enhances general cardiovascular condition, lowers fat and improves muscle tone. Type I muscle fibers (tonic fibers) help maintain body posture and are increased by endurance training, which promotes adiponectin release.

Aging and insufficient levels of physical activity cause a decline in muscle resistance, resulting in a loss of firmness. By promoting the integrity of type I fibers and their mitochondrial metabolism, muscle tone is improved and provides extra support to arms, legs, abdomen, neck and face.

Bermuda, a small but gorgeous subtropical island is a habitat for *Bacillus sp.* It produces structurally diverse compounds with some expected effect on various metabolic pathways in different biologic systems.

actigym™ *marine ingredient* induces adiponectin release from adipose tissue (*in vitro*) that signals the skeletal muscle to enhance metabolism of type I muscle fibers. As demonstrated in two complete and unique *in vivo* studies, it helps to enhance the appearance of a more toned and defined body silhouette, a slender neck and a more defined V-shaped face.

Lipotec™ Active Ingredients

actigym™
marine ingredient

In vitro efficacy

1. ADIPONECTIN RELEASE BY ADIPOCYTES

Primary human preadipocytes were induced to differentiation while treated with 5 µg/mL **actigym**™ *marine ingredient concentrate*. Non-treated cells were used as negative control. Levels of adiponectin secreted by the adipocytes were quantified by an ELISA.

68% increase of adiponectin release by adipocytes

2. MITOCHONDRIAL ACTIVITY IN MUSCLE FIBERS

Citrate synthase activity was used as a quantitative marker of mitochondrial activity induced in human skeletal muscle cells. Such cells were incubated either with supernatants from non-treated adipocytes (control) or with supernatants from adipocytes previously incubated with 5 µg/mL **actigym**™ *marine ingredient concentrate*.

48% higher mitochondrial activity

Adiponectin release in adipocytes supports mitochondrial activity in muscle cells.

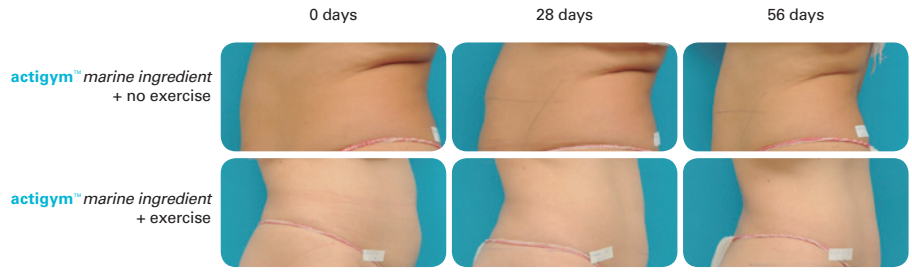
In vivo efficacy

SCULPTING BODY SHAPE

60 female volunteers (35-50 years old) with sedentary lifestyles were split into three separate groups and underwent the following regimen for 56 days:

	Group 1	Group 2	Group 3
Cream (twice a day)	5% **actigym**™ *marine ingredient*	5% **actigym**™ *marine ingredient*	Placebo
Body exercises (twice a week)	✗	✓	✓

- **Centimetric measurements**



actigym™ *marine ingredient* visibly reduced the appearance of abdomen contour, with impressive results when combined with exercise

Thigh and arm contour were also reduced up to 2.1 cm and 1.3 cm with **actigym™** *marine ingredient*, respectively.

SCULPTING DOUBLE CHIN AND FACIAL CONTOUR

79 female volunteers (39-59 years old) showing flaccidity on the chin were split into three separate groups and followed the below regimen for 56 days:

	Group 1	Group 2	Group 3
Cream (twice a day)	5% **actigym**™ *marine ingredient*	5% **actigym**™ *marine ingredient*	Placebo
Facial exercises (twice a week)	✗	✓	✓

- **Centimetric measurements**

actigym™ *marine ingredient* + no facial exercise — **actigym**™ *marine ingredient* + facial exercise

actigym™ *marine ingredient* helped reduce the appearance of double chin contour, resulting in a slender neck

Up to 17.2% decrease in oval contour after the active treatment, for a defined V-shaped face.

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Lubrizol

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