



*Product for anti-acne*

# CLEAN SAVER

*Natural product for acne & sebum control*



  
**NaturalSolution**

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## INTRODUCTION OF PRODUCT



Clean Saver is a plant complex containing extracts from three plants, *Sophora flavescens*, *Psoralea corylifolia* and *Platycarya strobilacea*, which are all well-known oriental medicinal plants for anti-oxidant, anti-inflammatory, and anti-bacterial activities. Clean Saver shows anti-acne effect by decreasing the sebum release and by inhibiting the growth of *Propionibacterium acnes*, which is an aerotolerant anaerobic bacteria causing acne in skin.

INCI Name: Sophora Flavescens Root Extract

## PLANT STORY: *SOPHORA FLAVESCENS*



The dried root of *Sophora flavescens* is a well-known medicinal herb in East Asia used for the treatment of diarrhoea, gastrointestinal hemorrhage, eczema, psoriasis and cancer.

*S. flavescens* contains alkaloids, triterpenoids and flavonoids, which are known to have various biological activities. Matrine and oxymatrine, the main alkaloids extracted from *S. flavescens* show anti-oxidant, anti-inflammatory and anti-tumor activities.

Experimental results also suggest that *S. flavescens* may be effective on atopic dermatitis and other inflammatory skin problems.

INCI Name: Psoralea Corylifolia Fruit Extract

## PLANT STORY: *PSORALEA CORYLIFOLIA*



*Psoralea corylifolia* has long been used as an important medicinal plant in Ayurveda and in Traditional Chinese Medicine (TCM) to cure various skin diseases, such as psoriasis, vitiligo, leprosy, skin rashes and others. It is used in the inflammatory diseases, mucomembranous disorders, dermatitis, and edematous conditions of skin. According to the scientific studies, it has been reported that *P. corylifolia* has chemoprotective, anti-oxidant, anti-microbial and anti-inflammatory properties.

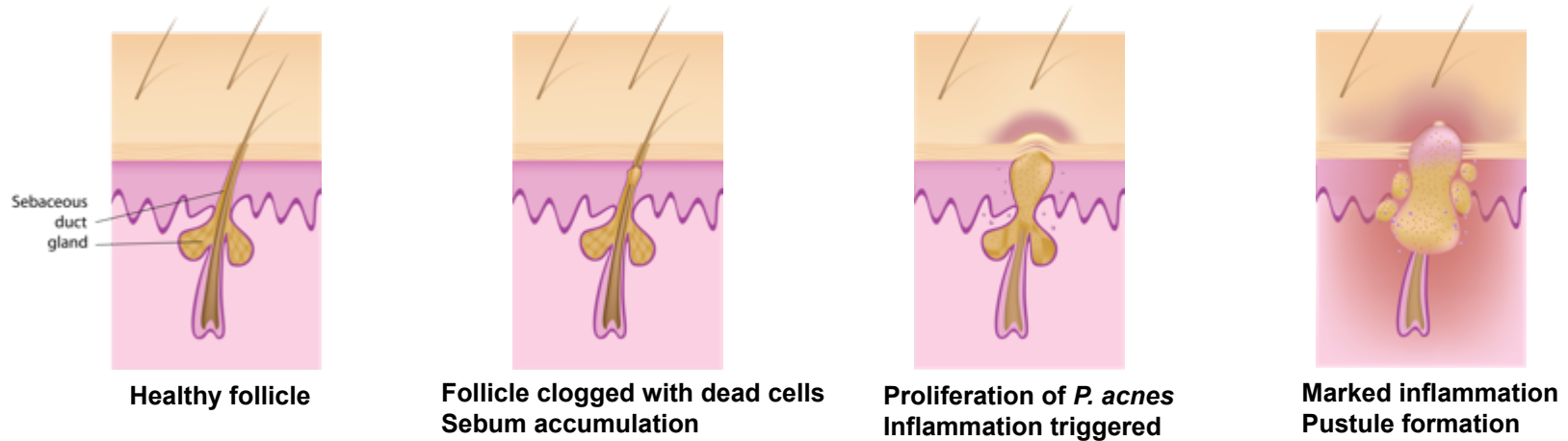
INCI Name: Platycarya Strobilacea Extract

## PLANT STORY: *PLATYCARYA STROBILACEA*



*Platycarya strobilacea* is a flowering deciduous tree distributed in Korea, Japan and China. Young leaves are edible, and the oval black-brown fruits have been used for dyeing fabrics. In Traditional Korean Medicine, the fruits, roots and barks are used as a medicine to treat inflammatory diseases. The extract of *P. strobilacea* was reported to have anti-fungal, anti-inflammatory, and anti-oxidant effects.

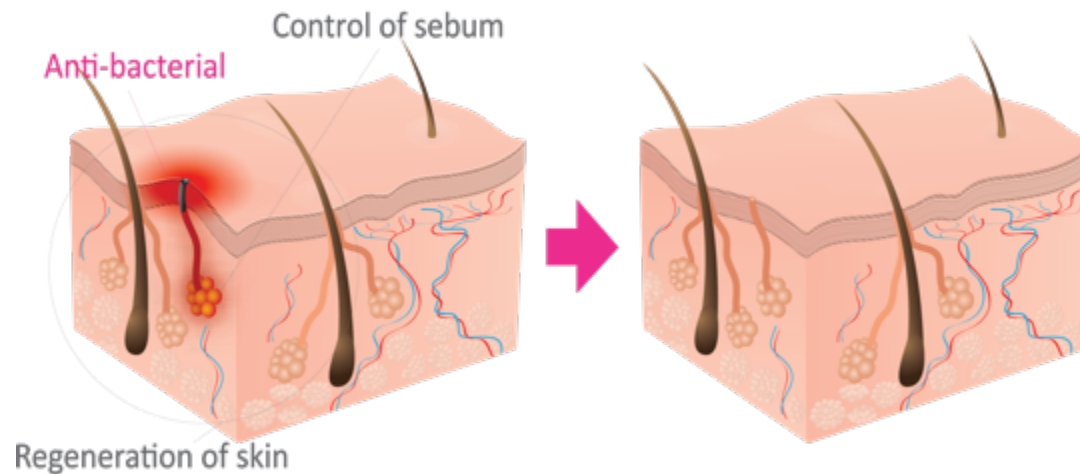
# ACNE FORMATION



Acne, medically known as acne vulgaris, is a common inflammatory disease of sebaceous glands in skin. Acne develops mostly in young generation, usually caused by several factors, such as hormonal imbalance, bacterial infection, stress, food, or cosmetic application.

Especially, *Propionibacterium acnes* grown inside the follicles is known to be involved in the abnormal cycle of inflammation, oil production, and inadequate sloughing activities of acne pores. Since *P. acnes* is one of the major factor of acne pathogenesis, it is important to efficiently remove the bacteria in order to treat acne.

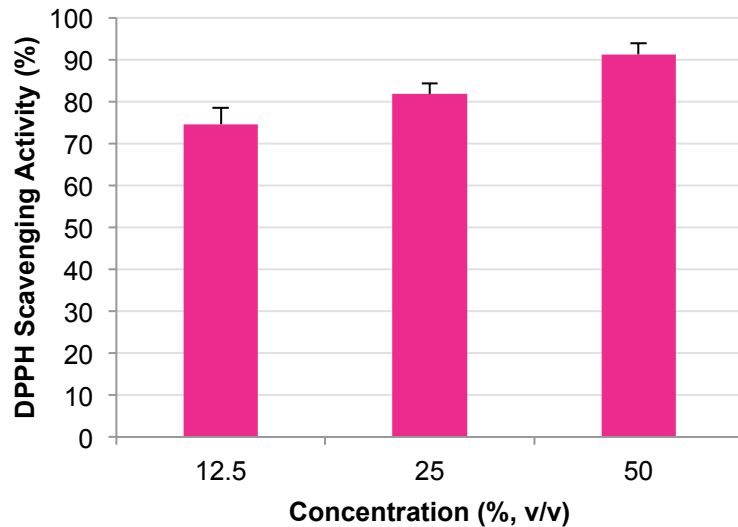
# ANTI-ACNE MECHANISM OF CLEAN SAVER



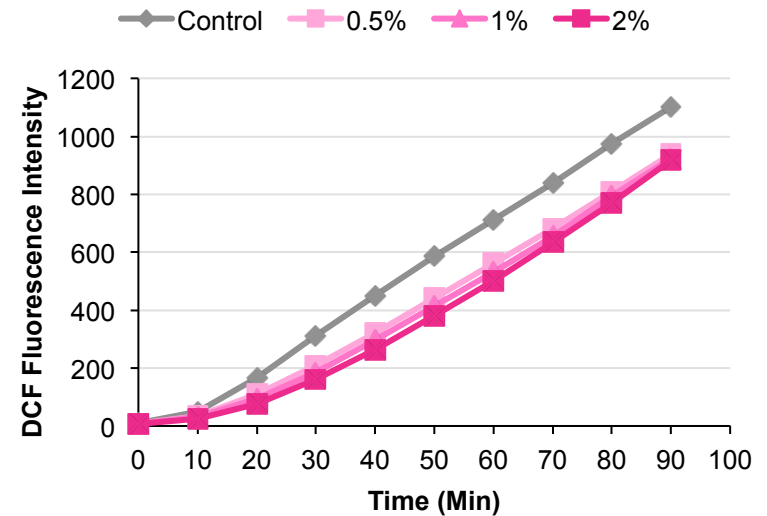
Clean Saver shows anti-acne mechanism by controlling the sebum secretion and by inhibiting the growth of acne-causing bacteria, *Propionibacterium acnes*.

# IN VITRO EVALUATION: ANTI-OXIDANT

 **Anti-oxidant Effect**  
DPPH Scavenging Activity

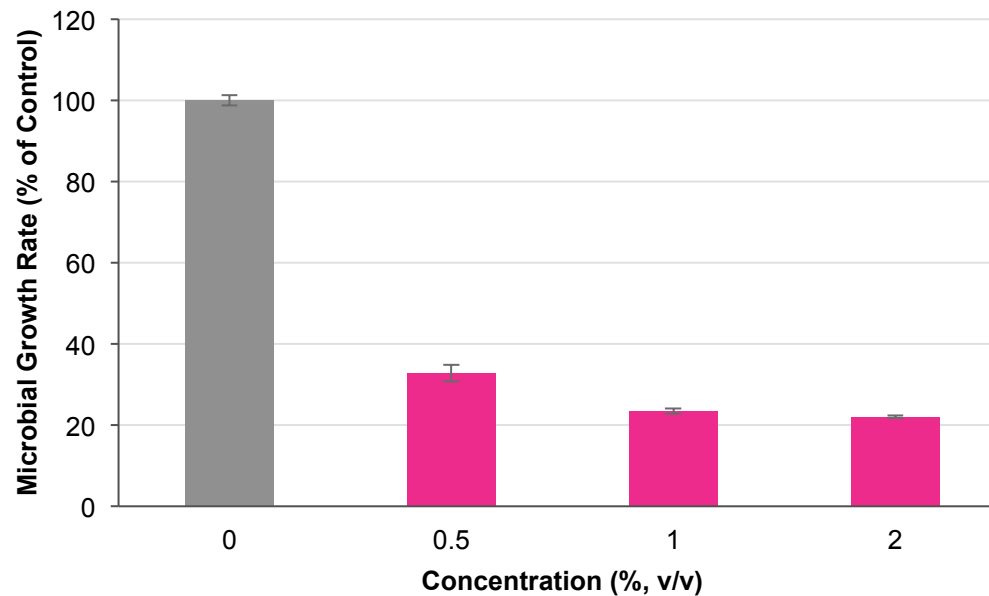


 **Anti-oxidant Effect**  
ROS Generation Inhibition Activity

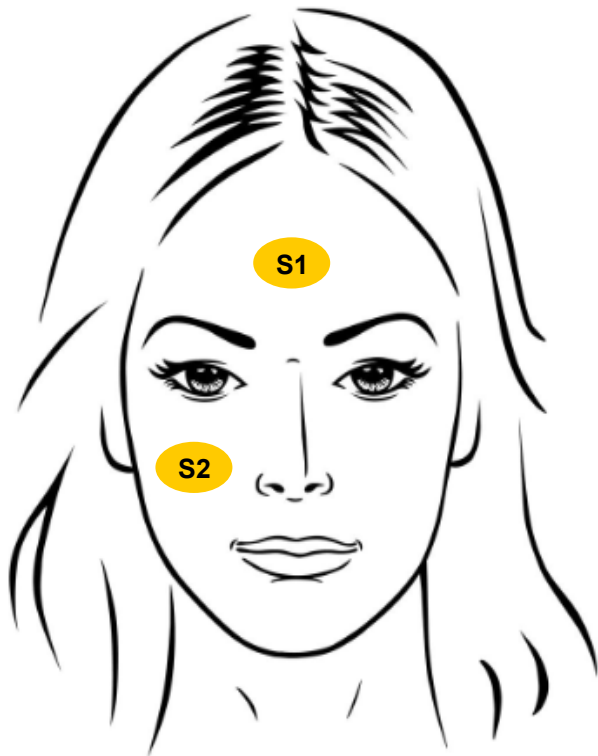




# IN VITRO EVALUATION: ANTI-MICROBIAL - MICROBIAL (*P. ACNES*) GROWTH INHIBITION ACTIVITY



## IN VIVO EVALUATION: ANTI-ACNE

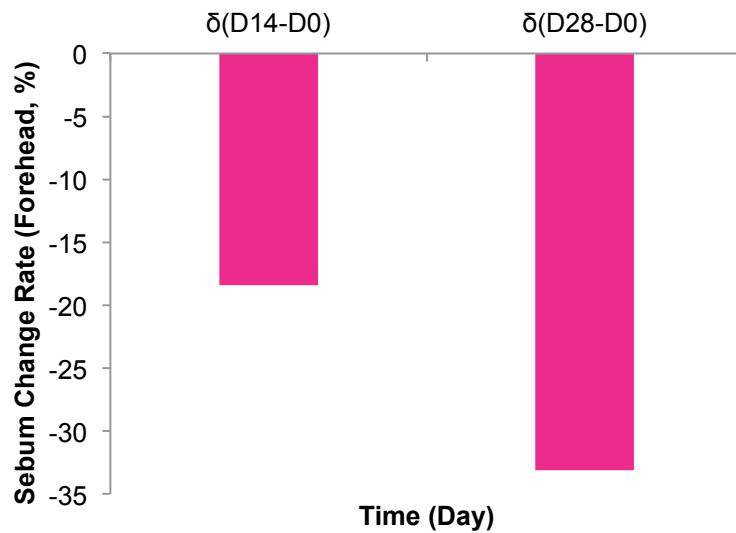


- Target site: S1 - Forehead  
S2 - Cheek
- Subjects: 18 males & females aged between 18 to 40 years old
- Test item: Cream with 2% Clean Saver
- Application: Twice a day for 4 weeks
- Test instrument: Derma Unit SSC3 - Sebum
- Dermatologist's evaluation:

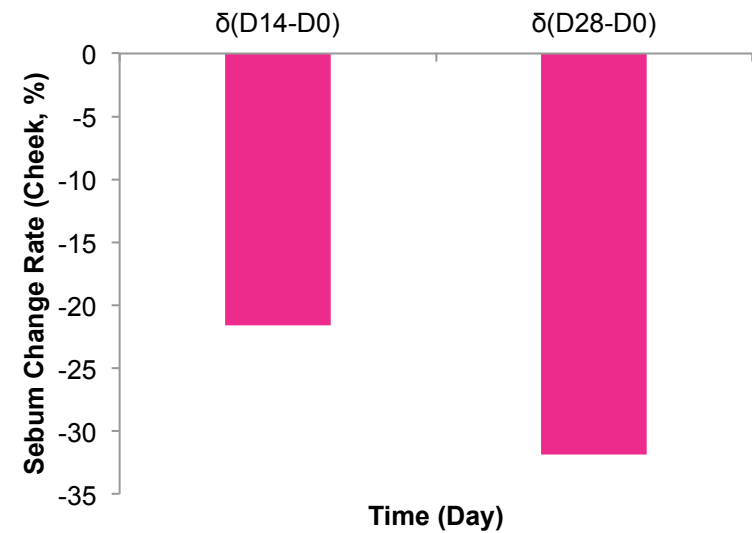
0	Absent
1	Mild, be aware now and then, no need to stop the test
2	Moderate, with obvious symptoms but bearable, must stop the test
3	Sever, with predominant symptoms, unbearable, must stop the test

# IN VIVO EVALUATION: ANTI-ACNE - SEBUM CHANGE

 Sebum Change in Forehead



 Sebum Change in Cheek



## IN VIVO EVALUATION: ANTI-ACNE - VISUALIZATION



Day 0



Day 14





Day 28





## MARKETING POINTS

- Complex of three oriental medicinal herbs
- Inhibits the growth of acne-causing bacteria, *P. acnes*
- Prevention of new acne formation
- Reduces sebum secretion



## PRODUCT INFORMATION

-  **Product Name:** Clean Saver(PD) 

Approved by  
**ECOCERT**  
RAW MATERIAL  
COSMETICS
-  **INCI Name:** Sophora Flavescens Root Extract,  
Psoralea Corylifolia Fruit Extract,  
Platycarya Strobilacea Extract
-  **Dosage:** 1 – 3%
-  **Formulation:** Add to the formulation when the temperature is lower than 55°C.  
Recommended to add after the cooling process.
-  **Storage:** Avoid direct light or UV. Keep it in a cool and dry area.

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