

## Key Feature

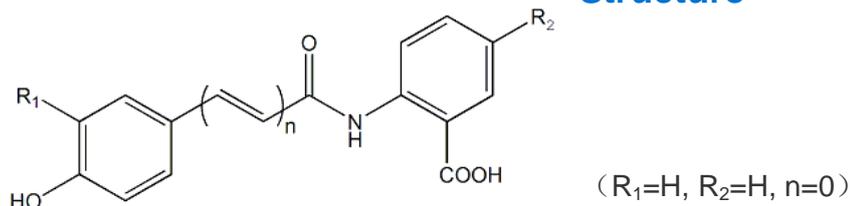
DMS<sup>®</sup> is a derivative from avenanthramides, sharing the analogous efficacy with natural avenanthramides, including anti-itch, anti-inflammatory and anti-allergic effect. Ad<sup>®</sup>YZ-05 is alcohol-soluble and can be used in both washing products and skin care products. DMS<sup>®</sup>CC is a hydrosoluble cyclodextrin inclusion complex of DMS<sup>®</sup>.

**INCI** Dihydrocinnamoyl anthranilates

**CAS** 697235-49-7

## Chemical

## Structure



## Efficacy

It is founded that DMS<sup>®</sup> provides the equal efficacy with avenanthramides.

### 1. Anti-itch activity

Histamine is a main pruritus mediator relieved from mast cell in sensitive and dry skin. DMS<sup>®</sup> significantly inhibits mast cell producing histamine to effectively alleviate itching and redness.

### 2. Anti-inflammatory activity

The inflammatory response is initiated by many inflammatory mediators and DMS<sup>®</sup> can reduce inflammatory response by decreasing the secretion of multiple pro-inflammatory mediators including histamine, IL-1 $\beta$ , TNF- $\alpha$ , chemokines, adhesion molecular and colony stimulating factors.

### 3. Anti-aging activity

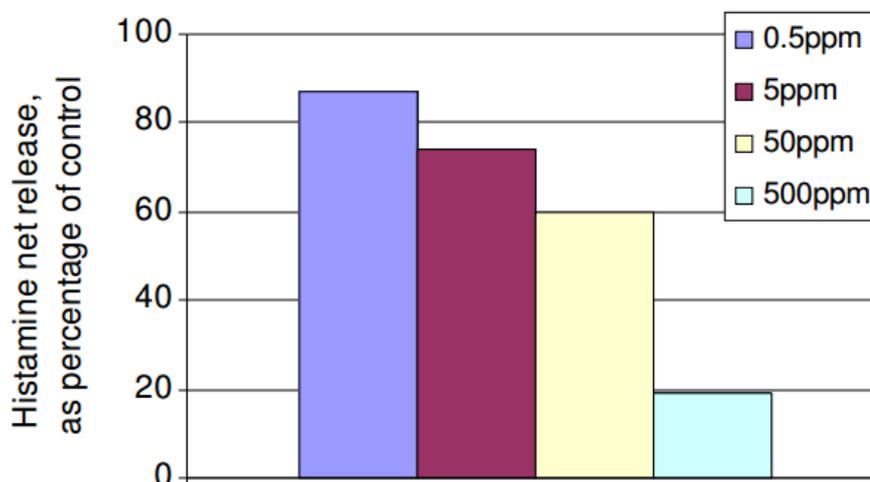
DMS<sup>®</sup> prevents UV-irradiated generation of reactive oxygen species and expression of matrix metalloproteinase-1 and -3 in human dermal fibroblasts to alleviate collagen loses.

## In vitro efficacy

### Inhibition of substance P evoked histamine release

Mast cells were preincubated in the 96-wells plate. The same concentration of substance P and the different gradient of concentration of DMS<sup>®</sup> CC were added to different culture mediums respectively. After treatment, the amount of histamine released in the solution was

measured. According to the results, this value was inversely proportional to the concentration of DMS® CC. The amount of histamine released was reduced by more than 80% with 500ppm DMS® CC.



### In vivo efficacy

Efficacy against the itching and redness induced by histamine

After applying histamine, the placebo and 500ppm DMS® CC were used as controls covering the small sores respectively in the acupuncture experiment. Then the volunteers evaluated their itching sensation in accordance with the standard. At the same time, the situation of erythema was recorded. According to the results, DMS® CC presented a significant inhibition of itching sensation and relieved the erythema more quickly compared with the placebo.

### Applications

- 1 Skin care products for sensitive skin
- 2 Formulations using anti-allergic ingredients
- 3 Anti-itch products for autumn and winter: shampoo and shower gel

### Specification

	DMS® CC	Ad® YZ-05
Appearance	Colorless to yellowish viscous liquid	Colorless to pale yellow liquid
Odor	Weak odor	Weak odor
Infra-red spectrum	Conform	Conform
Ultra-violet spectrum	Conform	Conform
Normal mode rejection	Conform	Conform
Assay	≥5%	≥5%
Heavy Metal	≤10ppm	≤10ppm
T. P. C.(cfu/gm)	≤100	≤100

## Formulation Tips

1 DMS® CC: 0.2-2% for essence

2 Ad® YZ-05 : 0.2-2% for emulsification system, below 0.2-1% for washing system

## Package

Units of 5 kg, 25 kg

## Storage

Storage at room temperature in the shade

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