

**Name of the medicinal product**

Acnesol Cream

**Qualitative and quantitative composition**

Tretinoin 0.05% w/w

For the full list of excipients, see section 6.1

**Pharmaceutical form**

Cream

**Chemical name:**

(2E,4E,6E,8E)3,7-dimethyl-9-(2,6,6-trimethylcyclohex-1-enyl)nona-2,4,6,8-tetraenoic acid

**Pharmacologic group:**

Anti-acne.

**PHARMACOLOGICAL PROPERTIES**

Pharmacodynamic properties

Pharmacotherapeutic group: Retinoids for topical use in acne

ATC code: D10ADOI

Tretinoin ( $\beta$ -All trans retinoic acid, vitamin A acid) produces profound metabolic changes in keratinizing epithelia. Tretinoin increases the proliferative activity of epidermal cells in vivo and in vitro studies, and cellular differentiation (keratinization and cornification) is also altered.

**Pharmacokinetic properties**

Absorption

Tretinoin is an endogenous metabolite of Vitamin A metabolism in man. Upon topical application, tretinoin is minimally absorbed, penetrating both the epidermis and dermis.

Percutaneous absorption of tretinoin, as determined by the cumulative excretion of radiolabeled drug into urine and feces, was assessed in healthy men and women after single

and/or repeated daily applications of a 0.05%, 0.1 % or 0.5% tretinoin cream formulation or a 0.01 % tretinoin gel formulation, at doses of 100, 150 or 500 mg. The mean percutaneous absorption ranged from 1.0 to 4.3%. Endogenous plasma concentrations of tretinoin and its metabolites, 13-cis-retinoic acid, all-trans-4-oxo-retinoic acid and 13-cis-4-oxo-retinoic acid were essentially unaltered after either single or multiple daily applications relative to baseline levels.

## Distribution

Approximately 80% of tretinoin applied remains on the skin surface, whereas its penetration through the stratum corneum and the hair follicle is vehicle-dependent. After the initial diffusion into the stratum corneum that occurs within a few minutes, further diffusion into epidermis and dermis proceeds more slowly.

## Metabolism

Topically-applied tretinoin is metabolized by CYP2S1 and CYP26. Metabolites are 13-cisretinoic acid, all-trans-4-oxo-retinoic acid and 13-cis-4-oxo-retinoic acid.

## Elimination

After application of radiolabelled tretinoin emollient cream or cream, urinary excretion occurred mainly in the first 48 hours, whereas radioactivity was eliminated in the faeces throughout the 7 days after dose application. On average 1 — 1.5% of the radioactivity was recovered in urine and less than 1 % was recovered in feces.

## Paediatric Population

It is expected that pharmacokinetic behavior of tretinoin topical formulations and drug-drug interactions with tretinoin topical formulations will be similar to those in adults. In a study in 20 adolescent patients with moderate to severe acne treated for 12 weeks with tretinoin gel, none of the plasma samples obtained at Week 12 of the treatment period contained quantifiable tretinoin levels.

## **Posology and method of administration.**

For cutaneous administration.

### Adults

### Acne:

Acnesol should be applied once or twice daily to the area of the skin where acne lesions occur.

Before application of Acnesol areas to be treated should be cleansed thoroughly with water and a mild, non-medicated soap. The treated area should be washed no more than twice a day. After washing, the skin should be dried gently and completely without rubbing it. Areas of the skin being treated should be allowed to dry for at least 20 to 30 minutes before application of Acnesol.

Only apply sufficient to cover the affected areas lightly, using a gauze swab, cotton wool or the tips of clean fingers. Avoid over-saturation to the extent that excess medication could get into the eyes, angles of the nose or other areas where treatment is not intended.

Initial applications may cause transitory stinging and a feeling of warmth. The correct frequency of administration should produce a slight erythema similar to that of mild sunburn.

If Acnesol is applied excessively, no more rapid or better results will be obtained and marked redness, peeling or discomfort may occur, should this occur accidentally or through over-enthusiastic use, application should be discontinued for a few days.

Patience is needed in this treatment, since the therapeutic effects will not usually be observed until after 6-8 weeks of treatment. During the early weeks of treatment, an apparent exacerbation of inflammatory lesions may occur. This is due to the action of the medication on deep, previously unseen comedones and papules.

Once the acne lesions have responded satisfactorily, it should be possible to maintain the improvement with less frequent applications.

Moisturisers and cosmetics may be used during treatment with Acnesol but should not be applied to the skin at the same time. The skin should be thoroughly washed before application of Acnesol astringent toiletries should be avoided.

### Children

Safety and effectiveness have not been established in children.

### **Therapeutic indications.**

For the management of acne vulgaris and other keratotic conditions..

### **Contraindications.**

- History of sensitivity/hypersensitivity reactions to any of the components
- Pregnancy
- Evidence of skin damage
- Personal or familial history of cutaneous epitheliomata or eczema.

### **Special warnings and precautions for use.**

1. The frequency of application should be closely monitored by careful observation of the clinical therapeutic response and skin tolerance.

2. The presence of cutaneous irritative signs (e.g. erythema, peeling, pruritus, sunburn, etc) should prohibit initiation or recommencement of treatment with Acnesol until the symptoms resolve.

3. Following prolonged use of peeling agents it is advisable to 'rest' a patient's skin until the effects of the peeling agent subside before the use of Acnesol is begun. When Acnesol and peeling agents are alternated, contact dermatitis may result and frequency of application may have to be reduced.

4. Avoid contact with eyes, eyelids, nostrils, mouth and mucous membranes. If contact in these areas occurs, careful washing with water is recommended.

5. In certain sensitive individuals, topical use may induce severe local erythema, swelling, pruritus, warmth, burning or stinging, blistering, crusting and/or peeling at the site of application. If the degree of local irritation warrants, the patient should be directed to apply the medication less frequently or discontinue its use temporarily. If a patient experiences severe or persistent irritation, the patient should be advised to discontinue application of Acnesol completely and if necessary, consult a physician.

Weather extremes, such as wind or cold and low humidity, may also be irritating to skin being treated with Acnesol and may increase its dryness.

Tretinoin has been reported to cause severe irritation on eczematous skin and should be used with utmost caution in patients with this condition.

Patients will be able to remove hair as usual (e.g. plucking, electrolysis, depilatories) but should avoid these procedures before applying Acnesol as they might result in skin irritation.

Permanent wave solutions, waxing preparations, medicated soaps and shampoos can sometimes irritate even normal skin. Caution should be used so that these products do not come into contact with skin treated with Acnesol.

### Exposure to sunlight

Exposure to sunlight, including ultraviolet sunlamps, should be avoided or minimised during the use of tretinoin. Patients with sunburn should be advised not to use the product until fully recovered because of potential severe irritation to skin. A patient who experiences considerable sun exposure due to occupational duties and/or anyone inherently sensitive to the sun should exercise particular caution. When exposure to sunlight cannot be avoided, use of sunscreen products and protective clothing over treated areas is recommended.

6. Warning: the weight of evidence indicates that topical tretinoin is not carcinogenic. In a lifetime study of CD-1 mice, a low incidence of skin tumours was seen at 100 and 200 times the estimated clinical dose but, although no such tumours were seen in the study controls, the incidence in these treated animals was within the historic control range for CD-1 mice. Studies in hairless albino mice suggested that tretinoin may accelerate the tumorigenic potential of UVB light from a solar simulator.

In other studies, when light pigmented hairless mice treated with tretinoin were exposed to carcinogenic doses of UVB light, the photocarcinogenic effects of tretinoin were not observed. Due to significantly different experimental conditions, no strict comparison of this disparate data is possible. Although the significance of these studies in man is not clear, patients should avoid or minimise exposure to sunlight.

The weight of evidence indicated that topical tretinoin is not mutagenic. The mutagenic potential of tretinoin was evaluated in the Ames assay and in-vivo mouse micronucleus assay, both of which showed negative findings.

7. History of sensitivity/hypersensitivity to any of the components as part of the combined statement in Contraindications.

### **Undesirable effects.**

The safety of tretinoin topical formulations including Acnesol was evaluated in 4160 patients who participated in 23 clinical trials, including 4 open-label and 19 double-blind, placebo-controlled clinical trials. The 23 clinical trials evaluated the safety of tretinoin in male and female patients, aged 10 to 79 years, with photo damaged skin or acne vulgaris.

The table below displays ADRs that have been reported with the use of tretinoin topical formulations from the 23 clinical trials and from postmarketing experience.

The displayed frequency categories use the following convention:

Very common ( 1/10); common ( 1/100 to <1/10); uncommon ( 1/1,000 to <1/100); rare ( 1/10,000 to <1/1,000); very rare (<1/10,000); and not known (cannot be estimated from the available clinical trial data).

Table: Adverse Drug Reactions Reported in Clinical Trials and Postmarketing Experience for ACNESOL

| System Organ Class | Adverse Drug Reactions and Frequency Category |                                |
|--------------------|---|--------------------------------|
|                    | Uncommon ( ≥ 1/1,000 to <1/100)               | Rare ( ≥ 1/10,000 to <1/1,000) |

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|                          |                |  |
|--------------------------|----------------|--|
| Nervous System Disorders | Headache       |  |
|                          |                |  |
| Eye Disorders            | Eye irritation |  |

|   |  |   |
|---|--|---|
| <b>Skin and Subcutaneous Tissue Disorders</b>               | Hyperkeratosis,<br>Skin irritation,<br>Pain of skin,<br>Erythema,<br>Pruritus,<br>Rash papular,<br>Rash,<br>Dermatitis,<br>Dry skin,<br>Skin exfoliation | Swelling face,<br>Blister,<br>Skin discolouration,<br>Skin hyperpigmentation,<br>Skin hypopigmentation,<br>Skin burning sensation,<br>Scab,<br>Photosensitivity |
| <b>General Disorders and Administration Site Conditions</b> |  | Feeling hot   |

### **Interaction with other medicinal products and other forms of interaction.**

The following products or medications should be used with caution because of possible interaction with tretinoin. It is advised to allow the effects of such preparations to subside before use of Acnesol is begun:

- concomitant topical medication
- preparations containing benzoyl peroxide
- Toiletry preparations having an abrasive, drying, or desquamative effect, including soaps, shampoos, cosmetics, and products with high concentrations of alcohol, astringents, spices or lime.

### **Pregnancy and lactation.**

In reproductive studies, oral tretinoin is known to be teratogenic and has been shown to be foetotoxic in rats when given in doses 500 times the topical human dose. In reproduction studies in rats and rabbits, topical tretinoin, when used at doses of 500 and 320 times the

topical human dose, respectively, induced minor skeletal abnormalities e.g. irregularly contoured or partially ossified skull bones.

These changes may be considered variants of normal development and are usually corrected after weaning. Acnesol should not be used during pregnancy. It is not known whether tretinoin is excreted in human milk, therefore caution should be exercised when Acnesol is administered to a nursing mother.

### **Effects on ability to drive and use machines**

Acnesol is administered topically and is unlikely to have an effect on one's ability to drive or operate machinery.

### **Overdose.**

Excessive application of Acnesol does not improve the results of treatment and may induce marked irritation, e.g. erythema, peeling, pruritus etc. Oral ingestion of Acnesol may lead to the same effects associated with excessive oral intake of vitamin A (e.g. pruritus, dry skin, arthralgias, anorexia, vomiting). In the event of accidental ingestion, if the ingestion is recent, an appropriate method of gastric emptying should be used as soon as possible.

### **Preclinical safety data**

Topical administration of Acnesol products produces dose-dependent erythema, peeling and irritation and excessive use of the products should be avoided. Acnesol 0.1 % w/w did not produce an allergic response when tested in 160 subjects by the Draize test.

No systemic toxic effects have been reported following topical application of Acnesol formulations



### **LIST OF EXCIPIENTS.**

Liquid paraffin.

Butyl hydroxyl toluene

Propylene glycol

Methyl paraben

Propyl paraben

Sodium dihydrogen phosphate.

White Petroleum Jelly.

Cetostearyl alcohol

Cetomacrogol -1000.

Perfume (mama rose)

Benzyl alcohol.

Purified water.

### **Incompatibilities**

Not applicable.

### **Shelf life.**

3 years

### **Special Drecautions for storage.**

Do not store above 30 °C.

### **Nature and contents of container.**

Aluminium collapsible tube.

Aluminium tube contain 25 g of cream per pack

**Special precautions for disposal and other handling.**

No special requirements.

**MARKETING AUTHORISATION HOLDER.**

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Club Road, Plot No: 13777;

P.O. Box 1748 - 00902;

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**Marketing authorization number(s)**

15083

**Date of first authorization**

10/12/2009

**Date of revision of the text**

N/A