

**Summary of product characteristics**

**1. Name of the medicinal product**

**DERIVEX ACNE (ADAPALENE AND CLINDAMYCIN PHOSPHATE GEL)**

**2. Qualitative and quantitative composition**

Adapalene BP.....0.1% w/w

Clindamycin Phosphate BP Eq. to

Clindamycin.....1% w/w

In an aqueous gel base.....q.s.

Methylparaben BP.....0.1% w/w

(as preservative)

Propylparaben BP.....0.25% w/w

(As preservative)

**3. Pharmaceutical form**

Topical gel

**4. Clinical particulars**

**4.1 Therapeutic indications**

Derivex acne gel is indicated for topical application in the treatment of mild to moderate inflammatory acne vulgaris as well as non-inflammatory Acne, either alone or in combination with other anti-acne products and for the cutaneous treatment of acne vulgaris where comedones, papules and pustules predominate.

**4.2 Posology and method of administration**

Apply a thin film of Derivex acne gel once daily to the skin where acne lesions appear. Use enough to cover the entire affected area lightly.

**4.3 Contraindications**

Derivex acne gel is contraindicated in individuals with a history of hypersensitivity to clindamycin or lincomycin or adapalene, a history of regional enteritis or ulcerative colitis, or a history of antibiotic-associated colitis.

**4.4 Special warnings and precautions for use**

Use of the topical formulation of clindamycin results in absorption of the antibiotic from the skin surface. Diarrhea, bloody diarrhea, and colitis (including pseudomembranous colitis) have been reported with the use of topical and systemic clindamycin.

Diarrhea, colitis, and pseudomembranous colitis have been observed to begin up to several weeks following cessation of oral and parenteral therapy with clindamycin.

Adapalene should not be used on areas which have cuts or scrapes or on sunburnt skin or in eczema. Contact with the eyes, mouth or angles of the nose and other very sensitive areas of

the body should be avoided. If accidental contact does occur, immediately wash with warm water. General: Clindamycin should be prescribed with caution in atopic individuals.

Avoid exposure to strong sunlight and artificial UV light. Use of sunscreen products and protective clothing over the treated area is recommended.

Stop the use of Derivex acne gel in case of sensitivity or irritation.

Pediatric Use: Safety and effectiveness of Derivex acne gel in children under the age of 12 have not been established.

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

Clindamycin has been shown to have neuromuscular blocking properties that may enhance the action of other neuromuscular blocking agents. Therefore, it should be used with caution in patients receiving such agents.

There are no known interactions with other medications which might be used cutaneously and concurrently with Adapalene, however, other retinoid or drugs with a similar mode of action should not be used concurrently with adapalene.

#### **4.6 Fertility, pregnancy and lactation**

General: Clindamycin should be prescribed with caution in atopic individuals.

Pregnancy: Category B: Reproduction studies have been performed in rats and mice using subcutaneous and oral doses of clindamycin ranging from 100 to 600 mg/kg/day and have revealed no evidence of impaired fertility or harm to the fetus due to clindamycin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, Clindamycin should be used during pregnancy only if clearly needed. Derivex acne gel should not be used during pregnancy.

Nursing Mothers: It is not known whether clindamycin is excreted in human milk following use of Derivex acne gel. However, orally and parenterally administered clindamycin has been reported to appear in breast milk. Because of the potential for serious adverse reactions in nursing infants, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Adapalene can be used during breast-feeding.

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

DERIVEX ACNE gel has no influence on the ability to drive and use machines.

#### **4.8 Undesirable effects**

Local effects: Burning, itching, dryness, erythema and peeling.

Systemic effects: Cases of diarrhea, bloody diarrhea and colitis [including pseudomembranouscolitis] have been reported as adverse reactions in patients treated with oral and parenteral formulations of clindamycin and rarely with topical clindamycin. Abdominal pain and gastrointestinal disturbances as well as gram-negative folliculitis have also been reported in association with the use of topical formulations of clindamycin.

Adapalene may cause the following side effects at the site of application.

Common: may affect up to 1 in 10 people

Dry skin, irritation of the skin, burning sensation of the skin, redness of the skin (erythema).

Uncommon: may affect up to 1 in 100 people

Local skin reaction (contact dermatitis), skin discomfort, sunburn, itching of the skin (pruritus),peeling skin (exfoliation), flare up of acne.

#### **4.9 Overdose**

Derivex acne gel is not to be taken orally and is for cutaneous use only. If the medication is applied excessively, no more rapid or better results will be obtained and marked redness, peeling or discomfort may occur.

The acute oral dose of Adapalene Gel required to produce toxic effects in mice is greater than 10 g/kg. Nevertheless, unless the amount accidentally ingested is small, an appropriate method of gastric emptying should be considered.

### **5. Pharmacological properties**

#### **5.1 Pharmacodynamic properties**

Derivex acne gel contains two active ingredients, Clindamycin and Adapalene, with different mechanisms of action which are thought to act complementary to each other in the treatment of mild to moderate inflammatory and non-inflammatory Acne.

Clindamycin phosphate an inactive compound, is an antibiotic belonging to the lincomycin group of antibiotics that blocks protein synthesis in the bacteria responsible for causing infection of acne affected skin, and thus kills the bacteria, by rapidly converting in vivo into active form -Clindamycin. Propionibacterium acnes are bacteria that normally exist on the skin without causing any problems, living on fatty acids in the sebum (oil) secreted by the sebaceous glands.

Over production of sebum causes the pores of the skin to become blocked and the pimples, whiteheads and blackheads (comedones) are formed. Clogged pores attract bacteria which thenovergrow and cause infection. Clindamycin phosphate gets into the blackheads and

blocks the growth of the bacteria, while at the same time free fatty acids on the skin surface are decreased from approximately 14% to 2% following application of clindamycin. These actions of Clindamycin phosphate reduce bacterial growth that contributes to formation of acne skin lesions and prevents the spread of infection.

Adapalene is a retinoid-like compound that has been demonstrated to possess anti-inflammatory properties. Adapalene is essentially stable to oxygen and light and is chemically non-reactive. Mechanistically, adapalene binds like tretinoin to specific retinoic acid nuclear receptors.

Adapalene applied cutaneously is comedolytic in the rhino mouse model and also has effects on the abnormal processes of epidermal keratinization and differentiation, both of which are present in the pathogenesis of acne vulgaris. The mode of action of adapalene is suggested to be a normalization of differentiation of follicular epithelial cells resulting in decreased microcomedone formation. It inhibits the metabolism by lipoxidation of arachidonic acid to pro-inflammatory mediators. The profile suggests that the cell-mediated inflammatory component of acne may be modified by adapalene. Studies in human patients provide clinical evidence that cutaneous adapalene is effective in reducing the inflammatory components of acne (papules and pustules). Adapalene removes dead skin cells as well as enhances the follicular penetration of Clindamycin.

### **5.2 Pharmacokinetic properties**

Following multiple topical applications of clindamycin phosphate at a concentration equivalent to 10 mg clindamycin per mL in an isopropyl alcohol and water solution, very low levels of clindamycin are present in the serum (0-3 ng/mL) and less than 0.2% of the dose is recovered in urine as clindamycin.

Absorption of adapalene through human skin is low: in clinical trials measurable plasma adapalene levels were not found following chronic cutaneous application to large areas of acneic skin.

There are no data which define the pharmacokinetics of Derivex acne gel, following topical administration in man.

### **5.3 Preclinical safety data**

In animal studies, adapalene was well tolerated on cutaneous application for periods of up to six months in rabbits and for up to two years in mice. The major symptom of toxicity found in all animal species by the oral route were related to a hypervitaminosis A syndrome, and included bone dissolution, elevated alkaline phosphatase and a slight anaemia. Large oral doses of adapalene produced no adverse neurological, cardiovascular or respiratory effects in animals. Adapalene is not mutagenic. Lifetime studies with adapalene have been completed in mice at cutaneous doses of 0.6, 2 and 6

mg/kg/day and in rats at oral doses of 0.15, 0.5 and 1.5 mg/kg/day. The only significant finding was a statistically significant increase of benign pheochromocytomas of the adrenal medulla among male rats receiving adapalene at 1.5 mg/kg/day. These changes are unlikely to be of relevance to the cutaneous use of adapalene.

Adapalene produces teratogenic effects by the oral route in rats and rabbits. At cutaneous doses up to 200-fold the therapeutic dose, producing circulating plasma levels of adapalene at least 35 to 120 times higher than plasma levels demonstrated in therapeutic use, adapalene increased the incidence of additional ribs in rats and rabbits, without increasing the incidence of major malformations.

It is not known whether adapalene is secreted in animal or human milk. In animal studies, infant rats suckled by mother with circulating levels of adapalene at least 300 times those demonstrated in clinical use developed normally.

## **6. Pharmaceutical particulars**

### **6.1 List of excipients**

As per dossier

### **6.2 Incompatibilities**

None.

### **6.3 Shelf life**

3 years

### **6.4 Special precautions for storage**

Do not store above 30°C. Protect from Freezing and Light.

### **6.5 Nature and contents of container**

15 g lamitube placed in a carton with an insert.

### **6.6 Special precautions for disposal and other handling**

For topical use.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

## **Manufactured By**

**LexineTechnochem Pvt. Ltd.**