Skin disorders. Acitretin is used alone or with PUVA (a psoralen with UVA irradiation) or UVB in psoriasis[1-4] (p.1583). Studies have shown that use with PUVA or UVB light may increase efficacy and allow a reduction in the exposure to radiation required. It is also used in keratinisation disorders such as severe forms of ichthyosis[1,5-7] (p.1580) and Darier's disease (keratosis follicularis)[1,8] (p.1578). Benefit has been reported in various other skin disorders including lichen planus (p.1580), lichen sclerosus (p.1580), and cutaneous lupus erythematosus (p.1513).[1]

1. Berbis P. Acitretin. *Ann Dermatol Venereol* 2001; **128:** 737–45.
2. Lebwohl M, *et al.* Consensus conference: acitretin in combination with UVB or PUVA in the treatment of psoriasis. *J Am Acad Dermatol* 2001; **45:** 544–53.
3. Lee CS, Koo J. A review of acitretin, a systemic retinoid for the treatment of psoriasis. *Expert Opin Pharmacother* 2005; **6:** 1725–34.
4. British Association of Dermatologists. Psoriasis guideline 2006. Available at: http://www.bad.org.uk/healthcare/guidelines/psoriasis_guideline_(Final_update)_280906.pdf (accessed 27/09/07)
5. Bruckner-Tuderman L, *et al.* Acitretin in the symptomatic therapy for severe recessive X-linked ichthyosis. *Arch Dermatol* 1988; **124:** 529–32.
6. Steijlen PM, *et al.* Acitretin in the treatment of lamellar ichthyosis. *Br J Dermatol* 1994; **130:** 211–14.
7. Katugampola RP, Finlay AY. Oral retinoid therapy for disorders of keratinization: single-centre retrospective 25 years' experience on 23 patients. *Br J Dermatol* 2006; **154:** 267–76.
8. van Dooren-Greebe RJ, *et al.* Acitretin monotherapy in Darier's disease. *Br J Dermatol* 1989; **121:** 375–9.

Preparations

USP 31: Acitretin Capsules.

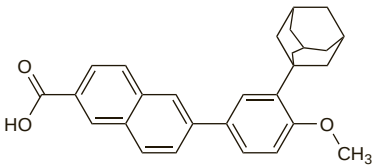
Proprietary Preparations (details are given in Part 3)
Arg.: Neotigason; ***Austral.:*** Neotigason; ***Austria:*** Neotigason; ***Belg.:*** Neotigason; ***Braz.:*** Neotigason; ***Canad.:*** Soriatane; ***Chile:*** Neotigason; ***Cz.:*** Neotigason; ***Denm.:*** Neotigason; ***Fin.:*** Neotigason; ***Fr.:*** Soriatane; ***Ger.:*** Neotigason; ***Gr.:*** Neotigason; ***Hong Kong:*** Neotigason†; ***Hung.:*** Neotigason; ***Irl.:*** Neotigason; ***Israel:*** Neotigason; ***Ital.:*** Neotigason; ***Malaysia:*** Neotigason; ***Mex.:*** Neotigason; ***Neth.:*** Neotigason; ***Norw.:*** Neotigason; ***NZ:*** Neotigason; ***Philipp.:*** Neotigason; ***Pol.:*** Neotigason; ***Port.:*** Neotigason; ***S.Afr.:*** Neotigason; ***Singapore:*** Neotigason†; ***Spain:*** Neotigason; ***Swed.:*** Neotigason; ***Switz.:*** Neotigason; ***Thai.:*** Neotigason; ***Turk.:*** Neotigason; ***UK:*** Neotigason; ***USA:*** Soriatane; ***Venez.:*** Neotigason.

Adapalene *(BAN, USAN, rINN)*

Adapaleeni; Adapalen; Adapalène; Adapaleno; Adapalenum; CD-271. 6-[3-(1-Adamantyl)-4-methoxyphenyl]-2-naphthoic acid.

Адапален

$C_{28}H_{28}O_3$ = 412.5.
CAS — 106685-40-9.
ATC — D10AD03.
ATC Vet — QD10AD03.



Adverse Effects and Precautions

As for Tretinoin, p.1618.

Pregnancy. Anophthalmia and agenesis of the optic chiasma were found in a fetus after termination of pregnancy in a woman who had applied adapalene 0.1% topically from the month before pregnancy until 13 weeks of gestation.[1]

1. Autret E, *et al.* Anophthalmia and agenesis of optic chiasma associated with adapalene gel in early pregnancy. *Lancet* 1997; **350:** 339.

Uses and Administration

Adapalene is a naphthoic acid derivative and retinoid analogue with actions similar to those of tretinoin (p.1619). Adapalene is used in topical treatment of mild to moderate acne (p.1577) where comedones, papules, and pustules predominate.

Adapalene is usually applied once daily at night as a 0.1% solution, cream, or gel to skin that has been cleansed and dried; a 0.3% gel is also available. Some patients may require less frequent applications. Other topical preparations that may cause irritation should not be used concurrently. If treatment with topical antibacterials or benzoyl peroxide is required, these should be applied in the morning and adapalene applied at night.

There may be apparent exacerbations of the acne during early treatment and a consistent therapeutic response may not be evident for at least 8 weeks. However, if there is no response after 12 weeks, therapy should be reassessed.

For use in young children, see below.

◊ References.

1. Brogden RN, Goa KL. Adapalene: a review of its pharmacological properties and clinical potential in the management of mild to moderate acne. *Drugs* 1997; **53:** 511–19.
2. Waugh J, *et al.* Adapalene: a review of its use in the treatment of acne vulgaris. *Drugs* 2004; **64:** 1465–78.
3. Pariser DM, *et al.* Adapalene Study Group. The efficacy and safety of adapalene gel 0.3% in the treatment of acne vulgaris: a randomized, multicenter, investigator-blinded, controlled comparison study versus adapalene gel 0.1% and vehicle. *Cutis* 2005; **76:** 145–51.
4. Thiboutot D, *et al.* Adapalene Study Group. Adapalene gel 0.3% for the treatment of acne vulgaris: a multicenter, randomized, double-blind, controlled, phase III trial. *J Am Acad Dermatol* 2006; **54:** 242–50.
5. Thiboutot DM, *et al.* Adapalene gel, 0.1%, as maintenance therapy for acne vulgaris: a randomized, controlled, investigator-blind follow-up of a recent combination study. *Arch Dermatol* 2006; **142:** 597–602.

Administration in children. Although not licensed for young children in the UK the *BNFC* includes adapalene 0.1% cream and gel, applied thinly once daily at night, for neonatal and infantile acne.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Adapne; Differin; Panalene; Sinac; ***Austral.:*** Differin; ***Austria:*** Differin; ***Belg.:*** Differin; ***Braz.:*** Dalap; Differin; ***Canad.:*** Differin; ***Chile:*** Adiamil; Differin; ***Cz.:*** Differine; ***Denm.:*** Redap; ***Fin.:*** Differin; ***Fr.:*** Differine; ***Ger.:*** Differin; ***Gr.:*** Adaferin; ***Hong Kong:*** Differin; ***Hung.:*** Differin; ***India:*** Aclene; Adaferin; Adiff; Deriva; ***Indon.:*** Evalen; ***Irl.:*** Differin; ***Israel:*** Adaferin; ***Ital.:*** Differin; ***Malaysia:*** Differin; ***Mex.:*** Adaferin; ***Neth.:*** Differin; ***Norw.:*** Differin; ***NZ:*** Differin; ***Philipp.:*** Differin; Klenzit; ***Pol.:*** Differin; ***Port.:*** Differin; ***Rus.:*** Differin (Дифферин); ***S.Afr.:*** Differin; ***Singapore:*** Differin; ***Spain:*** Differine; ***Swed.:*** Differin; ***Switz.:*** Differin; ***Thai.:*** Differin; ***Turk.:*** Differin; ***UK:*** Differin; ***USA:*** Differin; ***Venez.:*** Differin.

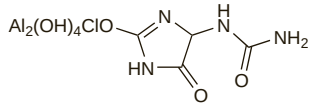
Multi-ingredient: ***Fr.:*** Epiduo; ***India:*** Deriva-C.

Alcloxa *(USAN, rINN)*

ALCA; Alcloxum; Aluminium Chlorhydroxyallantoinate; RC-173. Chlorotetrahydroxy[(2-hydroxy-5-oxo-2-imidazolin-4-yl)ureato]-dialuminium.

Алькло́кса

$C_4H_9Al_2ClN_4O_7$ = 314.6.
CAS — 1317-25-5.



Profile

Alcloxa is an astringent and keratolytic related to allantoin (below). It is present in multi-ingredient preparations intended for various skin and gastrointestinal disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Babysan Powder.

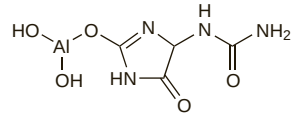
Multi-ingredient: ***Hong Kong:*** Pilelife; ***Malaysia:*** Neo-Medrol; ***NZ:*** Acnederm†; ***Singapore:*** Neo-Medrol; ***Thai.:*** Neo-Medrol; ***UK:*** Dermidex.

Aldioxa *(USAN, rINN)*

ALDA; Aldioxum; Aluminium Dihydroxyallantoinate; Dihydroxyaluminum Allantoinate; RC-172. Dihydroxy[(2-hydroxy-5-oxo-2-imidazolin-4-yl)ureato]aluminium.

Альдиокса

$C_4H_7AlN_4O_5$ = 218.1.
CAS — 5579-81-7.



Pharmacopoeias. In *Jpn.*

Profile

Aldioxa is an astringent and keratolytic related to allantoin (below). It is present in multi-ingredient preparations intended for various skin and gastrointestinal disorders.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** ZeaSorb; ***Austral.:*** ZeaSorb; ***Canad.:*** ZeaSorb; ***Chile:*** ZeaSorb†; ***Fr.:*** ZeaSorb; ***Indon.:*** ZeaSorb; ***Irl.:*** ZeaSorb; ***Israel:*** Aronal Forte; ***Ital.:*** Rikospray; ***Malaysia:*** ZeaSorb†; ***Mex.:*** Dentsiblen; ***Philipp.:*** ZeaSorb; ***S.Afr.:*** ZeaSorb; ***Singapore:*** ZeaSorb; ***Thai.:*** ZeaSorb; ***UK:*** Cetanorm; ZeaSorb.

Alefacept *(BAN, USAN, rINN)*

Aléfacept; Alefaceptum; BG-9273; BG-9712; LFA3TIP; Recombinant Human LFA-3/1gG$_1$ Fusion Protein. A dimer of 1-92 antigen LFA-3 (human) fusion protein with human immunoglobulin G1 (hinge-C_H2-C_H3 γ1-chain).

Алефацепт

CAS — 222535-22-0.
ATC — L04AA15.
ATC Vet — QL04AA15.

Adverse Effects and Precautions

Chills are common on intravenous dosage of alefacept. Other adverse effects are cough, dizziness, headache, injection site pain and inflammation, myalgia, nausea, pharyngitis, and pruritus. More serious adverse reactions are cardiovascular events (including coronary artery disorder and myocardial infarction), hypersensitivity reactions, lymphopenia, and serious infections requiring hospitalisation. Cases of hepatotoxicity including asymptomatic transaminase elevation, fatty infiltration of the liver, hepatitis, and acute liver failure have occurred. Like other drugs with immunosuppressant actions, alefacept may increase the risk of malignancies, particularly basal or squamous cell cancers of the skin. It should not be given to patients with a history of malignancy.

Alefacept should also not be given to patients with pre-existing serious infections, and should be stopped if these develop. Its use should be considered carefully in patients with chronic infections or a history of recurrent infection.

Alefacept induces a dose-dependent reduction in circulating CD4+ and CD8+ T-lymphocyte counts. It is therefore also contra-indicated in patients with HIV infection as the reduction in CD4+ T-lymphocytes could accelerate disease progression or increase complications of HIV infection. CD4+ T-lymphocyte counts should be monitored before starting alefacept therapy and then every 2 weeks during the 12-week treatment period. Treatment should not be started in patients with a CD4+ T-lymphocyte count below normal. Doses should be withheld and weekly monitoring started if the counts fall below 250 cells/microlitre, and treatment stopped if the counts remain below this level for one month.

Therapy should be stopped immediately, and appropriate treatment given, in patients who experience anaphylaxis or serious hypersensitivity; it should not be restarted.

◊ References.

1. Goffe B, *et al.* An integrated analysis of thirteen trials summarizing the long-term safety of alefacept in psoriasis patients who have received up to nine courses of therapy. *Clin Ther* 2005; **27:** 1912–21.

Pharmacokinetics

Alefacept has a bioavailability of about 63% after intramuscular injection. After an intravenous dose it has an elimination half-life of about 11 to 12 days.

◊ References.

1. Vaishnaw AK, TenHoor CN. Pharmacokinetics, biologic activity, and tolerability of alefacept by intravenous and intramuscular administration. *J Pharmacokinet Pharmacodyn* 2002; **29:** 415–26.

Uses and Administration

Alefacept is a recombinant human fusion protein that binds to CD2 on memory T-lymphocytes, preventing their activation and reducing their number. It is used in the management of moderate to severe chronic plaque psoriasis (p.1583) and is given in a dose of 7.5 mg once weekly by intravenous injection, or 15 mg once weekly by intramuscular injection, for 12 weeks. A second 12-week course may be given if necessary, starting not less than 12 weeks after the completion of the first.

◊ General references.

1. Ellis CN, Krueger GG. Treatment of chronic plaque psoriasis by selective targeting of memory effector T lymphocytes. *N Engl J Med* 2001; **345:** 248–55.
2. Krueger GG, *et al.* A randomized, double-blind, placebo-controlled phase III study evaluating efficacy and tolerability of 2 courses of alefacept in patients with chronic plaque psoriasis. *J Am Acad Dermatol* 2002; **47:** 821–33.
3. Krueger GG, Ellis CN. Alefacept therapy produces remission for patients with chronic plaque psoriasis. *Br J Dermatol* 2003; **148:** 784–8.