UK: Dexa-Rhinaspray Duo†; Maxitrol; Otomize; Sofradex; Tobradex; ***USA:*** Ak-Neo-Dex; Ak-Trol†; Ciprodex; Dexacidin†; Dexacine†; Dexasporin; Maxitrol; Neo-Dexameth†; NeoDecadron†; Neodexasone; Neopolydex; Ocu-Trol; Poly-Dex; Tobradex; ***Venez.:*** Baycuten N; Cipromet†; Cyprodex; Decadron†; Decaven; Deicol†; Dexaneol†; Dexapostafen; Gentidexa; Kanasone†; Maxicort; Maxitrol; Otocort; Poentobral Plus; Poli-Otico; Quinocort; Tobracort; Tobradex; Tobragan D; Todex; Trazidex.

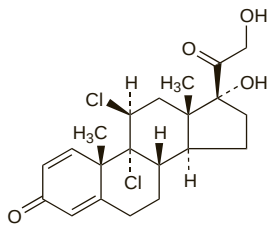
Dichlorisone Acetate *(rINNM)* ⊗

Acetato de diclorisona; Dichlorisone, Acétate de; Dichlorisoni Acetas; Diclorisone Acetate. 9α,11β-Dichloro-17α,21-dihydroxypregna-1,4-diene-3,20-dione 21-acetate.

Дихлоризона Ацетат

$C_{23}H_{28}Cl_2O_5$ = 455.4.

CAS — 7008-26-6 (dichlorisone); 79-61-8 (dichlorisone acetate).



(dichlorisone)

Profile

Dichlorisone acetate is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream containing 0.25 or 1%.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (see p.1490). The effects of topical corticosteroids on the skin are described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, see p.1497.

Preparations

Proprietary Preparations (details are given in Part 3)
Spain: Dermaren; Dicloderm Forte.

Diflorasone Diacetate *(BANM, USAN, rINNM)* ⊗

Diacetato de diflorasona; Diflorasone, Diacetate de; Diflorasoni Diacetas; U-34865. 6α,9α-Difluoro-11β,17α,21-trihydroxy-16β-methylpregna-1,4-diene-3,20-dione 17,21-diacetate.

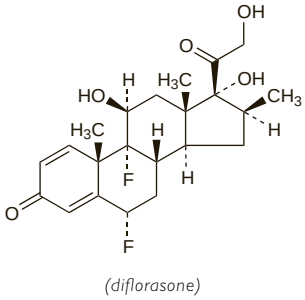
Дифлоразона Диацетат

$C_{26}H_{32}F_2O_7$ = 494.5.

CAS — 2557-49-5 (diflorasone); 33564-31-7 (diflorasone diacetate).

ATC — D07AC10.

ATC Vet — QD07AC10.



(diflorasone)

Pharmacopoeias. In *US.*

USP 31 (Diflorasone Diacetate). A white to pale yellow, crystalline powder. Insoluble in water; soluble in acetone and in methyl alcohol; very slightly soluble in ether; sparingly soluble in ethyl acetate; slightly soluble in toluene. Store in airtight containers.

Profile

Diflorasone diacetate is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream or ointment containing 0.05%.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (p.1490). The effects of topical corticosteroids on the skin are described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, and a rough guide to the clinical potencies of topical corticosteroids, see p.1497.

Preparations

USP 31: Diflorasone Diacetate Cream; Diflorasone Diacetate Ointment.

Proprietary Preparations (details are given in Part 3)
Ger.: Florone; ***Ital.:*** Dermaflor†; ***Mex.:*** Diasorane; ***Spain:*** Murode; ***USA:*** ApexiCon; Florone; Maxiflor; Psorcon.

Multi-ingredient: ***Arg.:*** Filoderma; Filoderma Plus; Griseocrem; Novo Bacticort Complex†; Novo Bacticort†.

Diflucortolone *(BAN, USAN, rINN)* ⊗

Diflucortolona; Diflucortolonum; Diflukortolon; Diflukortoloni. 6α,9α-Difluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione.

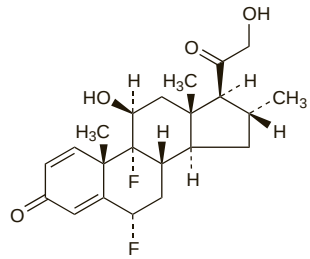
Дифлукортолон

$C_{22}H_{28}F_2O_4$ = 394.5.

CAS — 2607-06-9.

ATC — D07AC06.

ATC Vet — QD07AC06; QD07XC04.



Diflucortolone Pivalate *(BANM, USAN, rINNM)* ⊗

Diflucortolone, Pivalate de; Diflucortoloni Pivalas; Pivalato de diflucortolona; SH-968. Diflucortolone 21-pivalate.

Дифлукортолона Пивалат

$C_{27}H_{36}F_2O_5$ = 478.6.

CAS — 15845-96-2.

ATC — D07AC06.

ATC Vet — QD07AC06.

Diflucortolone Valerate *(BANM, rINNM)* ⊗

Diflucortolone, Valérate de; Diflucortoloni Valeras; Diflukortolon Valerat; Valerato de diflucortolona. Diflucortolone 21-valerate.

Дифлукортолона Валерат

$C_{27}H_{36}F_2O_5$ = 478.6.

CAS — 59198-70-8.

ATC — D07AC06.

ATC Vet — QD07AC06.

Pharmacopoeias. In *Br.*

BP 2008 (Diflucortolone Valerate). A white to creamy white crystalline powder. Practically insoluble in water; freely soluble in dichloromethane and in dioxan; sparingly soluble in ether; slightly soluble in methyl alcohol. Protect from light.

Profile

Diflucortolone is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream or ointment containing 0.1 or 0.3% of the valerate.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (p.1490). The effects of topical corticosteroids on the skin are described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, and a rough guide to the clinical potencies of topical corticosteroids, see p.1497.

Preparations

BP 2008: Diflucortolone Cream; Diflucortolone Oily Cream; Diflucortolone Ointment.

Proprietary Preparations (details are given in Part 3)
Arg.: Nerisona; ***Austria:*** Neriforte; Nerisona; ***Belg.:*** Nerisona; ***Braz.:*** Nerisona; ***Canad.:*** Nerisone; ***Denm.:*** Nerisona; ***Fr.:*** Nerisone; ***Ger.:*** Nerisona; ***Hong Kong:*** Nerisone; ***Indon.:*** Nerilon; Nerisona; Valeron; ***Israel:*** Neriderm; ***Ital.:*** Cortical; Dermaval; Dervin; Dicortal†; Flu-Cortanest; Nerisona; Temetex; ***Malaysia:*** Nerisone†; ***Mex.:*** Nerisona; ***Neth.:*** Nerisona; ***NZ:*** Nerisone; ***Philipp.:*** Nerisona; ***Port.:*** Nerisona; ***S.Afr.:*** Nerisone; ***Singapore:*** Nerisone†; ***Spain:*** Claral; ***Switz.:*** Nerisona†; ***Turk.:*** Temetex; ***UK:*** Nerisone.

Multi-ingredient: ***Arg.:*** Diflunazol†; Nerisona C; Scheriderm; ***Austria:*** Travocort; ***Belg.:*** Travocort; ***Braz.:*** Bi-Nerisona; ***Canad.:*** Nerisalic; ***Chile:*** Bi-Nerisona; ***Fr.:*** Nerisalic; Nerisone C; ***Ger.:*** Nerisona C†; Travocort; ***Gr.:*** Travocort; ***Hong Kong:*** Nerisone C; Travocort; ***Indon.:*** Nerisona Combi; Travocort; ***Irl.:*** Travocort; ***Israel:*** Isocort; Multiderm; Tevaderm; ***Ital.:*** Corti-Fluoral; Dermaflogil; Impetex; Nerisalic; Nerisona C; Travocort; ***Malaysia:*** Isoradin; Travocort; ***Mex.:*** Bi-Nerisona; Scheriderm; ***NZ:*** Nerisone C; ***Philipp.:*** Nerisona Combi; Travocort; ***Pol.:*** Travocort; ***Port.:*** Nerisona C; Travocort; ***Rus.:*** Travocort (Травокорт); ***S.Afr.:*** Travocort; ***Singapore:*** Nerisone C†; Travocort; ***Spain:*** Claral Plus; ***Switz.:*** Travocort; ***Thai.:*** Travocort; ***Turk.:*** Impetex; Nerisona C; Travazol; Travocort; ***Venez.:*** Binerisona.

Difluprednate *(USAN, rINN)* ⊗

CM-9155; Difluprednato; Difluprednatum; W-6309. 6α,9α-Difluoro-11β,17α,21-trihydroxypregna-1,4-diene-3,20-dione 21-acetate 17-butyrate.

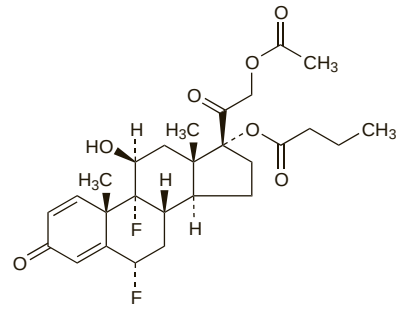
Дифлупреднат

$C_{27}H_{34}F_2O_7$ = 508.6.

CAS — 23674-86-4.

ATC — D07AC19.

ATC Vet — QD07AC19.



Profile

Difluprednate is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream or gel; concentrations used are 0.02 or 0.05%.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (p.1490). The effects of topical corticosteroids on the skin are described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, see p.1497.

Difluprednate is under investigation as a 0.05% ophthalmic emulsion for the treatment of inflammation following ocular surgery and uveitis.

Preparations

Proprietary Preparations (details are given in Part 3)
Fr.: Epitopic; ***Jpn:*** Myser†.

Fluclorolone Acetonide *(BAN, rINN)* ⊗

Acetónido de fluclorolona; Fluclorolone, Acétonide de; Flucloroloni Acetonidum; Fluocloronide *(USAN)*; Fluklorolonacetonid; Flukloroloniasetonidi; RS-2252. 9α,11β-Dichloro-6α-fluoro-21-hydroxy-16α,17α-isopropylidenedioxypregna-1,4-diene-3,20-dione.

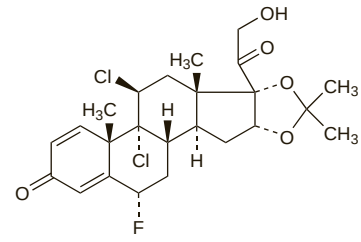
Флуклоролона Ацетонид

$C_{24}H_{29}Cl_2FO_5$ = 487.4.

CAS — 3693-39-8.

ATC — D07AC02.

ATC Vet — QD07AC02.



Profile

Fluclorolone acetonide is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream containing 0.2%.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (p.1490). The effects of topical corticosteroids on the skin are

described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, and a rough guide to the clinical potencies of topical corticosteroids, see p.1497.

Preparations

Proprietary Preparations (details are given in Part 3)
Spain: Cutanit.

Fludrocortisone Acetate *(BANM, rINNM)*

Acetato de fludrocortisona; Fludrocortisone, acétate de; Fludrocortisoni acetas; Fludrokortison acetát; Fludrokortisonacetat; Fludrokortisoniasetaatti; Fludrokortizon-acetát; Fludrokortizono acetatas; Fludrokortyzonu octan; 9α-Fluorohydrocortisone 21-Acetate. 9α-Fluoro-11β,17α,21-trihydroxypregn-4-ene-3,20-dione 21-acetate.

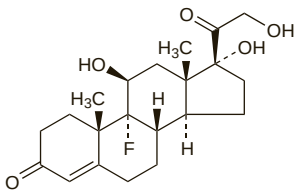
Флудрокортизона Ацетат

$C_{23}H_{31}FO_6$ = 422.5.

CAS — 127-31-1 (fludrocortisone); 514-36-3 (fludrocortisone acetate).

ATC — H02AA02.

ATC Vet — QH02AA02.



(fludrocortisone)

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, and *US.*
Ph. Eur. 6.2 (Fludrocortisone Acetate). A white or almost white, crystalline powder. Practically insoluble in water; sparingly soluble in dehydrated alcohol.
USP 31 (Fludrocortisone Acetate). White to pale yellow, odourless or practically odourless, hygroscopic, crystals or crystalline powder. Insoluble in water; sparingly soluble in alcohol and in chloroform; slightly soluble in ether. Protect from light.

Adverse Effects, Treatment, Withdrawal, and Precautions

Fludrocortisone acetate has glucocorticoid actions about 10 times as potent as hydrocortisone and mineralocorticoid effects more than 100 times as potent. Adverse effects are mainly those due to mineralocorticoid activity, as described on p.1490.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects. Prolonged use of ophthalmic preparations containing corticosteroids has caused raised intra-ocular pressure and reduced visual function.

Interactions

The interactions of corticosteroids in general are described on p.1494.

Pharmacokinetics

For a brief outline of the pharmacokinetics of corticosteroids, see p.1495.

Fludrocortisone is readily absorbed from the gastrointestinal tract. The plasma half-life is about 3.5 hours or more, but fludrocortisone exhibits a more prolonged biological half-life of 18 to 36 hours.

Uses and Administration

Fludrocortisone is a corticosteroid with glucocorticoid and highly potent mineralocorticoid activity (p.1490).

Fludrocortisone acetate is given orally to provide mineralocorticoid replacement in primary adrenocortical insufficiency (p.1498), with glucocorticoids. It is used in a dose range of 50 to 300 micrograms daily.

Fludrocortisone acetate may also be given with glucocorticoid therapy in doses of up to 200 micrograms daily in the salt-losing form of congenital adrenal hyperplasia (p.1502).

It is also given in the management of severe orthostatic hypotension (see below).

Fludrocortisone acetate is applied topically for its glucocorticoid actions in the treatment of various disorders. It is used as an ingredient of eye ointment or ear drops, usually in a concentration of 0.1%. Fludrocortisone acetate has also been included in topical preparations used for skin disorders. For recommendations concerning the correct use of corticosteroids on the skin, see p.1497.

Administration. A study of fludrocortisone requirements in 10 patients with Addison's disease indicated that dosage was often inadequate.[1] Nine were initially on fludrocortisone 50 to 100 micrograms daily in addition to cortisone or hydrocortisone; 5 were also taking levothyroxine for an associated auto-immune thyroid disease; one, who had detectable levels of aldosterone, was not initially receiving fludrocortisone. All the patients had evidence of sodium and water depletion and fludrocortisone was started at 300 micrograms daily, with downwards adjustments. Most patients required 200 micrograms daily; 2 patients elected to remain on 300 micrograms daily, but in most this dose caused pronounced sodium and water retention. The patient with detectable aldosterone levels required 50 micrograms daily. Eight of the 10 patients felt better on the higher fludrocortisone doses while 2 felt no change.

1. Smith SJ, *et al.* Evidence that patients with Addison's disease are undertreated with fludrocortisone. *Lancet* 1984; **i:** 11–14.

Neurally mediated hypotension. Fludrocortisone may be used in the management of neurally mediated hypotension in patients who require drug therapy (see p.1174) but there is limited evidence to support its use.

Orthostatic hypotension. Orthostatic (postural) hypotension[1-8] is a fall in blood pressure that occurs upon rising abruptly to an erect position, although it may also occur after a period of prolonged standing. Characteristic symptoms include lightheadedness, dizziness, blurred vision, weakness in the limbs, and syncope.

The causes of orthostatic hypotension are wide-ranging and include autonomic dysfunction, such as in the Shy-Drager syndrome, diabetes mellitus, and Parkinson's disease, circulating volume depletion, phaeochromocytoma, and Addison's disease. Orthostatic hypotension may also occur following a period of prolonged bed rest or after meals.

Orthostatic hypotension may result from the adverse effects of a range of drugs, such as antihypertensives, diuretics, tricyclic antidepressants, phenothiazines, and MAOIs.

In mild cases **nonpharmacological treatment** alone may be adequate. This includes increasing salt intake if not contra-indicated, maintaining adequate hydration, the use of elastic stockings to improve venous return and increase cardiac output, and elevating the head of the bed to reduce early morning symptoms. Drug-induced orthostatic hypotension should be treated by withdrawing the drug or by dose reduction.

Pharmacological treatment. No pharmacological treatment is entirely satisfactory: responses and tolerance vary greatly between patients. Fludrocortisone acetate is usually tried first; it increases sodium retention and thus plasma volume. Most reports indicate some response in about 80% of patients, but hypokalaemia, fluid retention, and supine hypertension may limit its use. In patients who fail to respond adequately an NSAID (usually indometacin) may be tried, alone or with fludrocortisone. In patients with overt autonomic failure a beta blocker with some partial agonist activity, such as pindolol, may be tried although they are potentially dangerous.

Sympathomimetics may be useful in some patients with autonomic failure; the direct acting drugs such as phenylephrine or midodrine are usually more consistently effective than the indirect such as ephedrine, but even so, responses tend to vary with the degree of denervation. Ambulatory noradrenaline infusion therapy is under investigation for severe refractory orthostatic hypotension. Patients with central neurological abnormalities may respond to desmopressin, while drugs such as ergotamine or dihydroergotamine may be useful for resistant disease.

Other drugs that have been tried include metoclopramide, which may be useful for autonomic symptoms in patients with diabetes mellitus, fluoxetine, octreotide, yohimbine, clonidine, and in patients with concurrent anaemia, erythropoietin. Caffeine has been tried in postprandial hypotension but its value in all but the mildest cases is dubious.[5] The use of MAOIs (which given alone can induce orthostatic hypotension) with a sympathomimetic to induce a pressor reaction is controversial. Most of these drugs have potentially serious adverse effects and few are well evaluated.

1. Ahmad RAS, Watson RDS. Treatment of postural hypotension: a review. *Drugs* 1990; **39:** 74–85.
2. Tonkin AL, Wing LMH. Hypotension: assessment and management. *Med J Aust* 1990; **153:** 474–85.
3. Schoenberger JA. Drug-induced orthostatic hypotension. *Drug Safety* 1991; **6:** 402–7.
4. Stumpf JL, Mitrzyk B. Management of orthostatic hypotension. *Am J Hosp Pharm* 1994; **51:** 648–60.
5. Mathias CJ. Orthostatic hypotension. *Prescribers' J* 1995; **35:** 124–32.
6. Frishman WH, *et al.* Drug treatment of orthostatic hypotension and vasovagal syncope. *Heart Dis* 2003; **5:** 49–64.
7. Freeman R. Treatment of orthostatic hypotension. *Semin Neurol* 2003; **23:** 435–42.
8. Gupta V, Lipsitz LA. Orthostatic hypotension in the elderly: diagnosis and treatment. *Am J Med* 2007; **120:** 841–7.

Preparations

BP 2008: Fludrocortisone Tablets;
USP 31: Fludrocortisone Acetate Tablets.

Proprietary Preparations (details are given in Part 3)
Arg.: Lonikan; ***Austral.:*** Florinef; ***Austria:*** Astonin H; ***Braz.:*** Florinefe; ***Canad.:*** Florinef; ***Chile:*** Florinef; ***Denm.:*** Florinef; ***Fin.:*** Florinef; ***Ger.:*** Astonin H; ***Gr.:*** Florinef; ***Hong Kong:*** Florinef; ***Hung.:*** Astonin H; ***Irl.:*** Florinef; ***Israel:*** Florinef†; ***Malaysia:*** Florinef; ***Mex.:*** Florinef; ***Neth.:*** Florinef; ***Norw.:*** Florinef; ***NZ:*** Florinef; ***Pol.:*** Cortineff; ***Rus.:*** Cortineff (Кортинефф); ***S.Afr.:*** Florinef; ***Singapore:*** Florinef; ***Spain:*** Astonin; ***Swed.:*** Florinef; ***Switz.:*** Florinef; ***Thai.:*** Florinef; ***UK:*** Florinef; ***USA:*** Florinef; ***Venez.:*** Florinefe†.

Multi-ingredient: ***Belg.:*** Panotile; ***Braz.:*** Otodol†; Panotil; ***Fr.:*** Panotile; ***Ger.:*** Panotile N†; ***Gr.:*** Paroticin; ***Indon.:*** Nelicort; Otopain; Otopraf; Otozambon; ***Neth.:*** Panotile; ***Pol.:*** Dicortineff; ***Spain:*** Fludronef; Panotile; ***Switz.:*** Panotile; ***Thai.:*** Otosamthong.

Fludroxycortide *(BAN, rINN)* ⊗

33379; Fludroksikortidi; Fludroxicortida; Fludroxikortid; Fludroxycortidum; Fluorandrenolone; 6α-Fluoro-16α-hydroxyhydrocortisone 16,17-Acetonide; Flurandrenolide *(USAN)*; Flurandrenolone. 6α-Fluoro-11β,21-dihydroxy-16α,17α-isopropylidenedioxypregn-4-ene-3,20-dione.

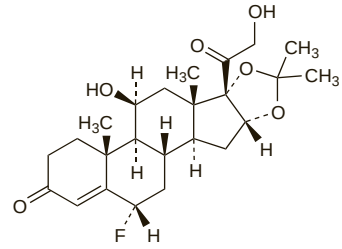
Флудроксикортид

$C_{24}H_{33}FO_6$ = 436.5.

CAS — 1524-88-5.

ATC — D07AC07.

ATC Vet — QD07AC07.



Pharmacopoeias. In *US.*
USP 31 (Flurandrenolide). A white to off-white, fluffy, odourless, crystalline powder. Practically insoluble in water and in ether; soluble 1 in 72 of alcohol, 1 in 10 of chloroform, and 1 in 25 of methyl alcohol. Store in airtight containers at a temperature not exceeding 8°. Protect from light.

Profile

Fludroxycortide is a corticosteroid used topically for its glucocorticoid activity (p.1490) in the treatment of various skin disorders. It is usually used as a cream, lotion, or ointment containing 0.0125% or 0.05%. It is also used as an adhesive polyethylene tape impregnated with fludroxycortide 4 micrograms/cm^2.

When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, corticosteroids may be absorbed in sufficient amounts to cause systemic effects (p.1490). The effects of topical corticosteroids on the skin are described on p.1492. For recommendations concerning the correct use of corticosteroids on the skin, and a rough guide to the clinical potencies of topical corticosteroids, see p.1497.

Preparations

USP 31: Flurandrenolide Cream; Flurandrenolide Lotion; Flurandrenolide Ointment; Flurandrenolide Tape; Neomycin Sulfate and Flurandrenolide Cream; Neomycin Sulfate and Flurandrenolide Lotion; Neomycin Sulfate and Flurandrenolide Ointment.

Proprietary Preparations (details are given in Part 3)
Braz.: Drenison; ***UK:*** Haelan; ***USA:*** Cordran.

Multi-ingredient: ***Braz.:*** Dreniformio; Drenison N.