olone; Ultraderm; ***Malaysia:*** Synalar†; ***Mex.:*** Cortifung-S; Cortilona; Cremisona; Farmacorti; Flumicin; Fluomex; Fusalar; Lonason; Synalar; ***Norw.:*** Synalar; ***NZ:*** Synalar; ***Philipp.:*** Aplosyn; Cynozet; Synalar; Syntopic; ***Pol.:*** Flucinar; ***Port.:*** Oto-Synalar N; Synalar; ***Rus.:*** Flucinar (Флуцинар); Sinaflan (Синафлан); ***S.Afr.:*** Cortoderm; Fluoderm; Synalar; ***Singapore:*** Flunolone-V; ***Spain:*** Co Fluocin Fuerte; Cortiespec; Fluocid Forte; Fluodermo Fuerte; Flusolgen; Gelidina; Intradermo Corticosteroi†; Synalar; Synalar Rectal Simple; ***Swed.:*** Synalar; ***Switz.:*** Synalar; ***Thai.:*** Cervicum; Fluciderm†; Flunolone-V; Fulone; Supralan; Synalar; ***UK:*** Synalar; ***USA:*** Capex; Derma-Smoothe/FS; DermOtic; Fluonid; Flurosyn†; Retisert; Synalar; Synemol; ***Venez.:*** Bratofil; Fluquinol Simple†; Neo-Synalar; Neoflu†.

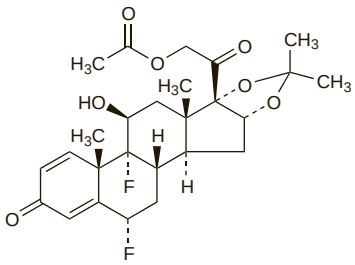
Multi-ingredient: ***Arg.:*** Adop-Tar†; Tri-Luma; ***Austria:*** Myco-Synalar; Procto-Synalar; Synalar N; ***Belg.:*** Procto-Synalar; Synalar Bi-Otic; ***Braz.:*** Dermobel†; Dermoxin; Elotin; Fluo-Vaso; Neocinolon; Otauril†; Otocort†; Otomixyn; Otosynalar; Tri-Luma; Vitacid Plus; ***Chile:*** Otoseptil; Tri-Luma; ***Denm.:*** Synalar med Chinoform; ***Fr.:*** Antibio-Synalar; ***Ger.:*** Jellin polyvalent†; Jellin-Neomycin; Procto-Jellin†; ***Gr.:*** Myco-Synalar; Procto Synalar†; Procto-Synalar N; ***Hong Kong:*** Aplosyn-Otic; Flunolone; Fluonid-N; Synalar N; Synco-CFN; Syneolona; Tri-Luma; ***Hung.:*** Eczil†; Flucinar N; Synalar N†; ***India:*** Eczo-Wokadine; Flucort-C; Flucort-MZ; Flucort-N; Flucreme NM; Luci-N; Micogel F; Neocip FC; Zole-F; ***Indon.:*** Cinogenta; Cinolon-N; Fasolon; Genolon; Gentasolon; Kalcinol-N; Neosinol; Ociderm-N; Sinobiotik; Zumaderm-N; ***Irl.:*** Synalar C†; Synalar N†; ***Ital.:*** Cortanest Plus; Doricum; Lauromicina; Localyn; Localyn-Neomicina; Mecloderm F; Meclutin†; Nefluan; Proctolyn; ***Malaysia:*** Flumicin; Fluonid-N†; Synalar N†; Tri-Luma; ***Mex.:*** Acenil; Bentix; Cetoquina Y; Cortifung-N; Cortifung-Y; Cortilona Compuesta; Farmacorti YC; Fluccinol C†; Fluccinol N; Flunal-Neo†; Flunal†; Fluo Grin; Gynoclin-V; Lasalar-Y; Luzolona Y; Neoderm-F; Nysmosons-V; Promibasol-Plus; Synalar C; Synalar N; Synalar Neo; Synalar O; Synalar Oftalmico; Tri-Luma; Vagitrol-V; Yderm; ***Neth.:*** Synalar Bi-Otic†; ***Norw.:*** Synalar med Chinoform; ***Philipp.:*** Aplosyn C; Aplosyn N; Aplosyn-Otic; Neo-Synalar; Synalar Otic; Tri-Luma; ***Pol.:*** Flucinar N; ***Port.:*** Synalar N; Synalar Rectal; ***Rus.:*** Flucinar N (Флуцинар H); Simetrid (Симетрид); ***S.Afr.:*** Cortoderm-C; Synalar C; Synalar N; ***Singapore:*** Flunolone; Tri-Luma; ***Spain:*** Abrasone; Abrasone Rectal; Aceoto Plus; Alergical; Artrodesmol Extra; Bazalin; Cetraxal Plus; Cexidal Otico†; Creanolona; Flodermol; Fluo Fenic; Intradermo Cort Ant Fung†; Midacina; Neo Analsona; Otomidrin; Synalar Nasal; Synalar Neomicina; Synalar Otico; Synalar Rectal; Synalotic; Synobel†; Ultramicina Plus†; Vinciseptil Otico; ***Switz.:*** Myco-Synalar†; Procto-Synalar N; Synalar N; ***Thai.:*** Fluciderm-N†; Flunolone; Fluonid-N; Gental-F; Supralan-N; Synalar N; Tri-Luma; ***UK:*** Synalar C; Synalar N; ***USA:*** Tri-Luma; ***Venez.:*** Bratofil c Neomicina; Fluquinol†; Neo-Synalar con Neomicina; Neo-Synalar con Yodoclorohidroxiquina†; Neo-Synalar†; Neoflu con Neomicina†; Tri-Luma.

Fluocinonide *(BAN, USAN, rINN)* ⊗

Fluocinolide; Fluocinolone Acetonide 21-Acetate; Fluocinonid; Fluocinónida; Fluocinonidum; Fluosinonidi; NSC-101791. 6α,9α-Difluoro-11β,21-dihydroxy-16α,17α-isopropylidenedioxypregna-1,4-diene-3,20-dione 21-acetate.

Флуоцинонид

$C_{26}H_{32}F_2O_7$ = 494.5.
CAS — 356-12-7.
ATC — C05AA11; D07AC08.
ATC Vet — QC05AA11; QD07AC08.



Pharmacopoeias. In *Br., Chin., Jpn,* and *US.*
BP 2008 (Fluocinonide). A white or almost white, crystalline powder. Practically insoluble in water; slightly soluble in dehydrated alcohol and in chloroform. Protect from light.
USP 31 (Fluocinonide). A white to cream-coloured, crystalline powder having not more than a slight odour. Practically insoluble in water; slightly soluble in alcohol, in methyl alcohol, and in dioxan; sparingly soluble in acetone and in chloroform; very slightly soluble in ether.

Profile

Fluocinonide 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, gel, lotion, ointment, or scalp application containing 0.05%. A cream containing 0.1% may also be available.

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: Fluocinonide Cream; Fluocinonide Ointment;
USP 31: Fluocinonide Cream; Fluocinonide Gel; Fluocinonide Ointment; Fluocinonide Topical Solution.

Proprietary Preparations (details are given in Part 3)
Austria: Topsym; Topsymin F; ***Belg.:*** Lidex†; ***Canad.:*** Lidemol; Lidex; Lyderm; Lydonide†; Tiamol; Topsyn; ***Denm.:*** Metosyn; ***Ger.:*** Topsym; ***Gr.:*** Lidex; ***Ital.:*** Flu-21†; Topsyn; ***Mex.:*** Topsyn; ***Norw.:*** Metosyn; ***Philipp.:*** Lidemol; Lidex; ***Singapore:*** Lidex†; ***Spain:*** Klariderm†; Novoter; ***Switz.:*** Topsym; Topsymin; ***UK:*** Metosyn; ***USA:*** Lidex; Vanos.

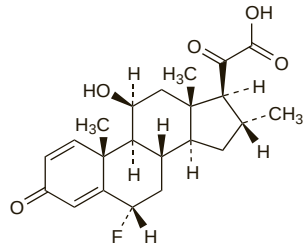
Multi-ingredient: ***Austria:*** Topsym polyvalent; ***Ger.:*** Jelliproct; Topsym polyvalent; ***Hung.:*** Vipsogal†; ***Israel:*** Comagis; ***Mex.:*** Topsyn-Y; ***Philipp.:*** Lidex NGN; ***Spain:*** Novoter Gentamicina; ***Switz.:*** Mycolog N; Topsym polyvalent; ***UK:*** Vipsogal.

Fluocortin Butyl *(BAN, USAN, rINNM)* ⊗

Butil éster de la fluocortina; Butylis Fluocortinas; Fluocortine Butyle; SH-K-203. Butyl 6α-fluoro-11β-hydroxy-16α-methyl-3,20-dioxopregna-1,4-dien-21-oate.

Флуокортин Бутил

$C_{26}H_{35}FO_5$ = 446.6.
CAS — 33124-50-4 (fluocortin); 41767-29-7 (fluocortin butyl).
ATC — D07AB04.
ATC Vet — QD07AB04.



(fluocortin)

Profile

Fluocortin butyl is a corticosteroid that has been 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 0.75%. When applied topically, particularly to large areas, when the skin is broken, or under occlusive dressings, or intranasally, 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.

Fluocortin butyl has also been used in the form of a dry powder nasal inhalation for the management of allergic rhinitis.

Preparations

Proprietary Preparations (details are given in Part 3)
Belg.: Varlane†; ***Ger.:*** Vaspit†; ***Ital.:*** Vaspit; ***Spain:*** Vaspit.

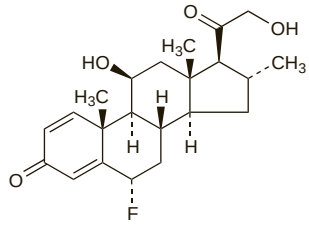
Multi-ingredient: ***Ger.:*** Bi-Vaspit†.

Fluocortolone *(BAN, USAN, rINN)* ⊗

Fluocortolona; Fluocortolonum; Fluokortolon; Fluokortoloni; 6α-Fluoro-16α-methyl-1-dehydrocorticosterone; SH-742. 6α-Fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione.

Флуокортолон

$C_{22}H_{29}FO_4$ = 376.5.
CAS — 152-97-6.
ATC — C05AA08; D07AC05; H02AB03.
ATC Vet — QC05AA08; QD07AC05; QH02AB03.



Fluocortolone Caproate *(USAN, rINNM)* ⊗

Caproato de fluocortolona; Fluocortolone, Caproate de; Fluocortolone Hexanoate *(BANM)*; Fluocortoloni Caproas; Fluokortolon Kaproat; Fluokortolon Kapronat; SH-770. Fluocortolone 21-hexanoate.

Флуокортолона Капроат

$C_{28}H_{39}FO_5$ = 474.6.
CAS — 303-40-2.
ATC — C05AA08; D07AC05; H02AB03.
ATC Vet — QC05AA08; QD07AC05; QH02AB03.

Pharmacopoeias. In *Br.*
BP 2008 (Fluocortolone Hexanoate). A white or creamy-white, odourless or almost odourless, crystalline powder. It exhibits polymorphism. Practically insoluble in water and in ether; very slightly soluble in alcohol and in methyl alcohol; slightly soluble in acetone and in dioxan; sparingly soluble in chloroform. Protect from light.

Fluocortolone Pivalate *(BANM, rINNM)* ⊗

Fluocortolone, pivalate de; Fluocortolone Trimethylacetate; Fluocortoloni pivalas; Fluokortolon Pivalat; Fluokortolonipivalaatti; Fluokortolono pivalatas; Fluokortolonpivalat; Fluokortolon-pivalát; Pivalato de fluocortolona. Fluocortolone 21-pivalate.

Флуокортолона Пивалат

$C_{27}H_{37}FO_5$ = 460.6.
CAS — 29205-06-9.
ATC — C05AA08; D07AC05; H02AB03.
ATC Vet — QC05AA08; QD07AC05; QH02AB03.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Fluocortolone Pivalate). A white or almost white crystalline powder. Practically insoluble in water; sparingly soluble in alcohol; freely soluble in dichloromethane and in dioxan. Protect from light.

Profile

Fluocortolone and its esters are corticosteroids mainly used topically for their glucocorticoid activity (p.1490) in the treatment of various skin disorders. They are usually used as a cream or ointment; concentrations usually used are 0.25% of the caproate with 0.25% of either the free alcohol or pivalate ester. The pivalate and caproate esters have also been used together in ointments or suppositories for the treatment of anorectal disorders.

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.

Fluocortolone free alcohol is sometimes given orally for its systemic effects in conditions for which corticosteroids are indicated (p.1495), in usual doses of 5 to 100 mg daily.

Preparations

BP 2008: Fluocortolone Cream.

Proprietary Preparations (details are given in Part 3)
Arg.: Ultracur S; ***Austria:*** Ultralan; ***Chile:*** Ultralan†; ***Ger.:*** Ultralan; ***Hong Kong:*** Ultralan; ***Israel:*** Ultralan; ***Ital.:*** Ultralan; ***Mex.:*** Ultralan†; ***Philipp.:*** Ultralan; ***Spain:*** Ultralan M; ***Turk.:*** Ultralan.

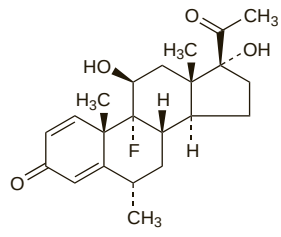
Multi-ingredient: ***Arg.:*** Ultraproct; ***Austral.:*** Ultraproct; ***Austria:*** Pilison; Ultraproct; ***Belg.:*** Ultraproct; ***Braz.:*** Ultraproct; ***Chile:*** Ultraproct; ***Denm.:*** Doloproct; Doloproct Comp; ***Fin.:*** Neoproct; ***Fr.:*** Ultralan; Ultraproct; ***Ger.:*** Doloproct; Ultralan†; Ultraproct†; ***Gr.:*** Doloproct; ***Hong Kong:*** Ultraproct N; Ultraproct†; ***Indon.:*** Ultraproct; Ultraproct N; ***Irl.:*** Ultraproct; ***Ital.:*** Doloproct; Ultraproct; ***Mex.:*** Ultraproct; ***NZ:*** Ultraproct; ***Philipp.:*** Ultraproct; ***Port.:*** Ultraproct; ***Rus.:*** Ultraproct (Ультрапрокт); ***Thai.:*** Scheriproct N; ***Turk.:*** Ultralan Crilane; Ultraproct; ***UK:*** Ultralanum Plain; Ultraproct.

Fluorometholone *(BAN, rINN)* ⊗

Fluorométholone; Fluorometholonum; Fluorometolon; Fluorometolona; Fluorometoloni. 9α-Fluoro-11β,17α-dihydroxy-6α-methylpregna-1,4-diene-3,20-dione.

Флуорометолон

$C_{22}H_{29}FO_4$ = 376.5.
CAS — 426-13-1.
ATC — C05AA06; D07AB06; S01BA07.
ATC Vet — QC05AA06; QD07AB06; QD07XB04; QD10AA01; QS01BA07; QS01CB05.



Pharmacopoeias. In *Br., Jpn,* and *US.*
BP 2008 (Fluorometholone). A white to yellowish white, crystalline powder. Practically insoluble in water; slightly soluble in dehydrated alcohol and in ether.
USP 31 (Fluorometholone). A white to yellowish-white, odourless, crystalline powder. Practically insoluble in water; soluble 1 in 200 of alcohol and 1 in 2200 of chloroform; very slightly soluble in ether. Store in airtight containers. Protect from light.

Fluorometholone Acetate *(BANM, USAN, rINNM)* ⊗

Acetato de fluorometolona; Fluorométholone, Acétate de; Fluorometholoni Acetas; Fluorometolon Asetat; U-17323. Fluorometholone 17-acetate.

Флуорометолона Ацетат

$C_{24}H_{31}FO_5$ = 418.5.

CAS — 3801-06-7.

ATC — C05AA06; D07AB06; S01BA07.

ATC Vet — QC05AA06; QD07AB06; QS01BA07.

Pharmacopoeias. In *US*.

USP 31 (Fluorometholone Acetate).

Profile

Fluorometholone is a corticosteroid used for its glucocorticoid activity (p.1490), usually as eye drops containing 0.1%, in the treatment of allergic and inflammatory conditions of the eye. Fluorometholone acetate is used similarly.

Fluorometholone is also used topically in the treatment of various skin disorders.

Prolonged use of ophthalmic preparations containing corticosteroids has caused raised intra-ocular pressure and reduced visual function. 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.

Preparations

BP 2008: Fluorometholone Eye Drops;
USP 31: Fluorometholone Cream; Fluorometholone Ophthalmic Suspension; Neomycin Sulfate and Fluorometholone Ointment; Tobramycin and Fluorometholone Acetate Ophthalmic Suspension.

Proprietary Preparations (details are given in Part 3)
Arg.: Flarex; FML; ***Austral.:*** Flarex; Flucon; FML; ***Austria:*** Flarex†; ***Belg.:*** Fluacort; Flucon; FML; ***Braz.:*** Florate; Flumex; Flutinol; ***Canad.:*** Flarex; FML; ***Chile:*** Aflarex; Fluforte; ***Cz.:*** Efflumidex; Flarex; Flucon; Flumetol S†; Fluoropos; ***Denm.:*** Flurolon; ***Fin.:*** FML; ***Fr.:*** Flucon; ***Ger.:*** Efflumidex; Fluoro-Ophtal; Fluoropos; Isopto Flucon†; ***Gr.:*** Flucon; Fluxinam; FML; Talirax†; ***Hong Kong:*** Flarex; Flucon; Flumetholon; FML; ***Hung.:*** Efflumidex; Flarex; Flucon; ***India:*** Flomex; Flosef; ***Indon.:*** Flumetholon; ***Irl.:*** FML; ***Israel:*** Flarex; FML; ***Ital.:*** Flarex; Fluaton; Flumetol; Flumetol Semplice†; ***Malaysia:*** Flarex; FML†; ***Mex.:*** Flarex; Fluforte; Flumetol NF; ***Neth.:*** Flarex; FML; ***NZ:*** Flarex†; Flucon; FML; ***Philipp.:*** Flarex; Flulon; FML; ***Pol.:*** Flarex; Flucon; ***Port.:*** Flurop; FML; ***Rus.:*** Flarex (Флаpекс); ***S.Afr.:*** Flucon; FML; ***Singapore:*** FML; ***Spain:*** FML; Isopto Flucon; ***Switz.:*** FML; ***Thai.:*** Flarex; Flu Oph; Flucon; FML; ***Turk.:*** Flarex; FML; ***UK:*** FML; ***USA:*** Eflone; Flarex; Fluor-Op†; FML; ***Venez.:*** Aflarex; Flumetol.

Multi-ingredient: ***Arg.:*** Delisan; Efemolina; FML Neo; Larsimal; Nesbiler†; ***Belg.:*** Infectoflam; ***Braz.:*** Flumex N; ***Chile:*** Fluforte N†; ***Cz.:*** Infectoflam†; ***Ger.:*** Cibaflam; Efemolin; Efflumycin†; ***Gr.:*** Efemoline; FML Neo; Indocort†; Luzin; ***Hong Kong:*** Efemoline; ***India:*** Flomex N; ***Ital.:*** Efemoline; Flumeciclina; Flumetol Antibiotico†; Flumezina; Gentacort; ***Malaysia:*** Efemoline†; Infectoflam†; ***Mex.:*** Fluforte N; Fluorometil; ***Philipp.:*** Efemoline; Infectoflam; ***Port.:*** FML Neo; Neo-Preocil; ***S.Afr.:*** Efemoline; FML Neo; ***Singapore:*** Efemoline; Infectoflam; ***Spain:*** Bexicortil; Cortisdin Urea; Flugen; Fluorvas; ***Switz.:*** Efemoline; FML Neo; Infectoflam; ***Thai.:*** Efemoline; FML Neo†; Infectoflam; ***Turk.:*** Efemoline; Flumetol; ***USA:*** FML-S.

Fluprednidene Acetate *(BANM, rINNM)* ⊗

Acetato de fluprednideno; Fluprednidène, Acétate de; Fluprednideni Acetas; Fluprednylidene 21-Acetate. 9α-Fluoro-11β,17α,21-trihydroxy-16-methylenepregna-1,4-diene-3,20-dione 21-acetate.

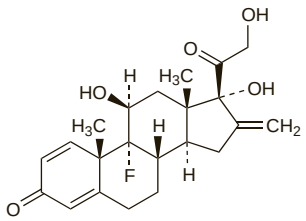
Флупреднидена Ацетат

$C_{24}H_{29}FO_6$ = 432.5.

CAS — 2193-87-5 (fluprednidene); 1255-35-2 (fluprednidene acetate).

ATC — D07AB07.

ATC Vet — QD07AB07.



(fluprednidene)

Profile

Fluprednidene 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 0.1% cream, or as an ointment containing 0.05% or 0.1%.

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 (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)
Austria: Decoderm; ***Belg.:*** Decoderm; ***Ger.:*** Decoderm; ***Indon.:*** Decoderm; ***Port.:*** Crinohermal; ***Swed.:*** Corticoderm†; ***Switz.:*** Decoderm.

Multi-ingredient: ***Arg.:*** Tri-Emcortina†; ***Austria:*** Decoderm Compositum; Decoderm trivalent; ***Belg.:*** Decoderm Compositum; ***Braz.:*** Emecort†; Pan-Emecort†; ***Ger.:*** Candio-Hermal Plus; Crinohermal fem; Decoderm Comp; Decoderm tri; Sali-Decoderm; Vobaderm; ***Gr.:*** Antimycotic; Catrigel; Combi; Conazol; Domycotin; Edmudo; Expectein; Feminella; Finicort; Flenazole; Fluniprol; Flunovon; Fosemyk; Fumicon; Micoflup; Micogen; Mifler; Oxigon; Panderm; Panmyk; Sarmel; Verdal; ***Indon.:*** Decoderm 3; Gentacortin; ***Switz.:*** Decoderm bivalent; ***Thai.:*** Supracortin 3†; ***UK:*** Acorvio Plus.

Fluticasone *(BAN, rINN)* ⊗

Fluticasona; Fluticasonum. *S*-(Fluoromethyl) 6α,9-difluoro-11β,17-dihydroxy-16α-methyl-3-oxoandrosta-1,4-diene-17β-carbothioate.

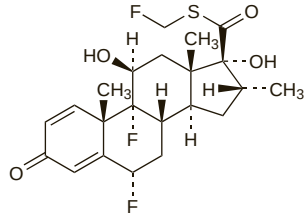
Флутиказон

$C_{22}H_{27}F_3O_4S$ = 444.5.

CAS — 90566-53-3.

ATC — D07AC17; R01AD08; R03BA05.

ATC Vet — QD07AC17; QR01AD08; QR03BA05.



Fluticasone Furoate *(BANM, USAN, rINN)* ⊗

Fluticasonum Furoas; Furoate de Fluticasone; Furoato de Fluticasona; GW-685698X. 6α,9-Difluoro-17-{[(fluoromethyl)sulfanyl]carbonyl}-11β-hydroxy-16α-methyl-3-oxoandrosta-1,4-dien-17α-yl furan-2-carboxylate.

Флутиказон Фуроат

$C_{27}H_{29}F_3O_6S$ = 538.6.

CAS — 397864-44-7.

ATC — D07AC17; R01AD08; R01AD12; R03BA05.

ATC Vet — QD07AC17; QR01AD08; QR01AD12; QR03BA05.

Fluticasone Propionate *(BANM, USAN, rINNM)* ⊗

CCI-18781; Fluticasone, propionate de; Fluticasoni propionas; Flutikasonipropionaatti; Flutikasonpropionat; Flutikason-propionát; Flutikazon Propiyonat; Flutikazono propionatas; Propionato de fluticasona. *S*-Fluoromethyl 6α,9α-difluoro-11β,17α-dihydroxy-16α-methyl-3-oxoandrosta-1,4-diene-17β-carbothioate 17-propionate.

Флутиказона Пропионат

$C_{25}H_{31}F_3O_5S$ = 500.6.

CAS — 80474-14-2.

ATC — D07AC17; R01AD08; R03BA05.

ATC Vet — QD07AC17; QR01AD08; QR03BA05.

Pharmacopoeias. In *Eur.* (see p.vii) and *US*.

Ph. Eur. 6.2 (Fluticasone Propionate). A white or almost white powder. Practically insoluble in water; slightly soluble in alcohol; sparingly soluble in dichloromethane. Protect from light.

USP 31 (Fluticasone Propionate). Micronised fluticasone propionate is a fine white powder. Store in airtight containers at a temperature not exceeding 30°. Protect from light.

Adverse Effects, Treatment, Withdrawal, and Precautions

As for corticosteroids in general (see p.1490). Hypersensitivity reactions have occurred. Eosinophilic conditions, including Churg-Strauss syndrome, have been reported rarely, in most cases after a transfer from oral corticosteroid therapy.

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. Inhalation or nasal use of large amounts of fluticasone may produce systemic effects also (see below).

Adrenal suppression. Despite the fact that inhaled fluticasone is generally thought to lack systemic effects at therapeutic doses, a study in 25 healthy subjects[1] indicated that fluticasone propionate as single inhaled doses of 250, 500, and 1000 micrograms did produce a reduction in plasma cortisol, indicating suppression of the hypothalamic-pituitary-adrenal axis to some degree. Others have also found evidence of adrenal suppression with fluticasone,[2-5] particularly at high doses and in children,[6] and the effect may be more marked with repeated than with single doses.[4,6-8] A number of cases of adrenal crisis have been associated with high-dose inhaled fluticasone,[9,10] including at least one fatality.[6] It has been recommended that children using inhaled fluticasone at doses above 400 micrograms daily should have adrenal function monitoring and a written plan for emergency corticosteroid replacement therapy.[6]

1. Grahnén A, *et al.* An assessment of the systemic activity of single doses of inhaled fluticasone propionate in healthy volunteers. *Br J Clin Pharmacol* 1994; **38:** 521–5.
2. Clark DJ, *et al.* Comparative systemic bioactivity of inhaled budesonide and fluticasone propionate in asthmatic children. *Br J Clin Pharmacol* 1996; **42:** 264P.
3. Rohatagi S, *et al.* Dynamic modeling of cortisol reduction after inhaled administration of fluticasone propionate. *J Clin Pharmacol* 1996; **36:** 938–41.
4. Clark DJ, Lipworth BJ. Adrenal suppression with chronic dosing of fluticasone propionate compared with budesonide in adult asthmatic patients. *Thorax* 1997; **52:** 55–8.
5. Eid N, *et al.* Decreased morning serum cortisol levels in children with asthma treated with inhaled fluticasone propionate. *Pediatrics* 2002; **109:** 217–21.
6. Paton J, *et al.* Adrenal responses to low dose synthetic ACTH (Synacthen) in children receiving high dose inhaled fluticasone. *Arch Dis Child* 2006; **91:** 808–13.
7. Lönnebo A, *et al.* An assessment of the systemic effects of single and repeated doses of inhaled fluticasone propionate and inhaled budesonide in healthy volunteers. *Eur J Clin Pharmacol* 1996; **49:** 459–63.
8. Wilson AM, *et al.* Adrenal suppression with high doses of inhaled fluticasone propionate and triamcinolone acetonide in healthy voluteers. *Eur J Clin Pharmacol* 1997; **53:** 33–7.
9. Todd GRG, *et al.* Survey of adrenal crisis associated with inhaled corticosteroids in the United Kingdom. *Arch Dis Child* 2002; **87:** 457–61.
10. Adverse Drug Reactions Advisory Committee (ADRAC). Fluticasone and adrenal crisis. *Aust Adverse Drug React Bull* 2003; **22:** 6. Also available at: http://www.tga.health.gov.au/adr/aadrb/aadr0304.htm (accessed 06/05/04)

Aspergillosis. The fungal infection aspergillosis has been reported in patients receiving inhaled[1,2] and intranasal[3] fluticasone.

1. Fairfax AJ, *et al.* Laryngeal aspergillosis following high dose inhaled fluticasone therapy for asthma. *Thorax* 1999; **54:** 860–1.
2. Leav BA, *et al.* Invasive pulmonary aspergillosis associated with high-dose inhaled fluticasone. *N Engl J Med* 2000; **343:** 586.
3. Bratton RL, *et al.* Aspergillosis related to long-term nasal corticosteroid use. *Mayo Clin Proc* 2002; **77:** 1353–7.

Effects on the bones. For studies of the effects on bone of inhaled fluticasone, compared with beclometasone, see p.1516.

Effects on the muscles. Proximal myopathy has been reported in children receiving high-dose inhaled fluticasone;[1] the patients recovered after replacement of fluticasone with alternative corticosteroid therapy.

1. De Swert LF, *et al.* Myopathy in children receiving high-dose inhaled fluticasone. *N Engl J Med* 2004; **350:** 1157–9.

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.

Fluticasone propionate is poorly absorbed from the gastrointestinal tract and undergoes extensive first-pass metabolism; oral bioavailability is reported to be only about 1%.

◊ References.

1. Mackie AE, *et al.* Pharmacokinetics of intravenous fluticasone propionate in healthy subjects. *Br J Clin Pharmacol* 1996; **41:** 539–42.
2. van Boxtel CJ, Sheffer AL, eds. The pharmacokinetics of fluticasone propionate. *Clin Pharmacokinet* 2000; **39** (suppl): 1–54.
3. Daley-Yates PT, Baker RC. Systemic bioavailability of fluticasone propionate administered as nasal drops and aqueous nasal spray formulations. *Br J Clin Pharmacol* 2001; **51:** 103–5.
4. Allen A, *et al.* Absolute bioavailability of intranasal fluticasone furoate in healthy subjects. *Clin Ther* 2007; **29:** 1415–20.

Uses and Administration

Fluticasone is a corticosteroid with mainly glucocorticoid activity (p.1490).

Fluticasone propionate is stated to exert a topical effect on the lungs without significant systemic effects at usual doses, due to its low systemic bioavailability (but see Adrenal Suppression, above). It is used by powder or aerosol inhalation for the prophylaxis of **asthma**. Typical initial doses in the UK range from 100 to 250 micrograms twice daily in mild asthma up to 1 mg twice daily in severe asthma, adjusted according to response. Children over 4 years of age may be given initial doses of 50 to 100 micrograms twice daily, increased to 200 micrograms twice daily if necessary.