Uses and Administration

Oxybuprocaine, a para-aminobenzoic acid ester, is a local anaesthetic with actions and uses similar to those described on p.1852. It is used for surface anaesthesia (p.1853) and is reported to be less irritant than tetracaine when applied to the conjunctiva in therapeutic concentrations.

Oxybuprocaine is used as the hydrochloride in a 0.4% solution in short ophthalmological procedures. One drop instilled into the conjunctival sac anaesthetises the surface of the eye sufficiently to allow tonometry after 60 seconds and a further drop after 90 seconds provides adequate anaesthesia for the fitting of contact lenses. Three drops at 90-second intervals produces sufficient anaesthesia after 5 minutes for removal of a foreign body from the corneal epithelium, or for incision of a Meibomian cyst through the conjunctiva. The sensitivity of the cornea is normal again after about 1 hour.

A 1% solution of oxybuprocaine hydrochloride is used for surface anaesthesia of the ear, nose, and throat.

Preparations

BP 2008: Oxybuprocaine Eye Drops;
USP 31: Benoxinate Hydrochloride Ophthalmic Solution; Fluorescein Sodium and Benoxinate Hydrochloride Ophthalmic Solution.

Proprietary Preparations (details are given in Part 3)
Arg.: Oftalmocaina†; ***Austria:*** Benoxinat; Novain; ***Belg.:*** Unicaine; ***Braz.:*** Oxinest; ***Cz.:*** Benoxi; Novesin; ***Fin.:*** Oftan Obucain; ***Fr.:*** Cebesine; Novesine†; ***Ger.:*** Benoxinat SE†; Conjuncain-EDO; Novesine; Oxbarukain†; ***Hong Kong:*** Benoxinate†; Novesin†; ***Hung.:*** Humacain; ***India:*** Bendzon; ***Israel:*** Localin; ***Ital.:*** Novesina; ***Malaysia:*** Novesin†; ***Philipp.:*** Oxyben; ***Port.:*** Anestocil; ***Rus.:*** Inokain (Инокаин); ***S.Afr.:*** Novesin; ***Singapore:*** Novesin†; ***Spain:*** Prescaina; ***Switz.:*** Cebesin; Novesin; ***Thai.:*** Novesin; ***Turk.:*** Benoxinate; Novesin.

Multi-ingredient: ***Austral.:*** Fluress; ***Austria:*** Flurekain; ***Cz.:*** Thilorbin†; ***Fin.:*** Oftan Flurekain; ***Fr.:*** Collu-Blache†; ***Ger.:*** Thilorbin; ***Mex.:*** Mentalgina; ***NZ:*** Fluress†; ***Port.:*** Fluotest; Mebocaina; ***Spain:*** Anestesi Doble; Fluotest; ***Swed.:*** Fluress; ***Switz.:*** Collu-Blache; Mebucaine; ***UAE:*** B-Cool; ***USA:*** Flu-Oxinate†; Fluorox; Flurate; Fluress; Flurox.

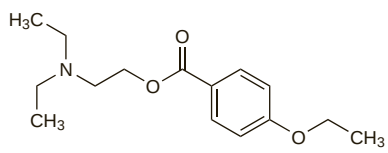
Parethoxycaine Hydrochloride *(rINNM)*

Hidrocloruro de paretoxicaína; Paréthoxycaïne, Chlorhydrate de; Parethoxycaini Hydrochloridum. 2-Diethylaminoethyl 4-ethoxybenzoate hydrochloride.

Парэтоксикаина Гидрохлорид

$C_{15}H_{23}NO_3$,HCl = 301.8.

CAS — 94-23-5 (parethoxycaine); 136-46-9 (parethoxycaine hydrochloride).



(parethoxycaine)

Profile

Parethoxycaine hydrochloride, a para-aminobenzoic acid ester, is a local anaesthetic (p.1850) that has been used in pastilles for painful conditions of the mouth and throat.

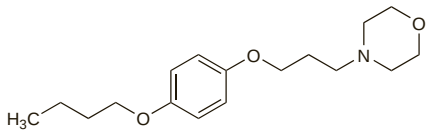
Pramocaine Hydrochloride *(BANM, rINNM)*

Hidrocloruro de pramocaína; Pramocaïne, Chlorhydrate de; Pramocaini Hydrochloridum; Pramoksiinihydrokloridi; Pramoxine Hydrochloride; Pramoxinhydroklorid; Pramoxini Hydrochloridum; Pramoxinium Chloride. 4-[3-(4-Butoxyphenoxy)propyl]morpholine hydrochloride.

Прамокаина Гидрохлорид

$C_{17}H_{27}NO_3$,HCl = 329.9.

CAS — 140-65-8 (pramocaine); 637-58-1 (pramocaine hydrochloride).
ATC — C05AD07; D04AB07.
ATC Vet — QC05AD07; QD04AB07.



(pramocaine)

Pharmacopoeias. In *US.*
USP 31 (Pramoxine Hydrochloride). A white or almost white crystalline powder; it may have a faint aromatic odour. Freely soluble in water and in alcohol; soluble 1 in 35 of chloroform; very slightly soluble in ether. A 1% solution in water has a pH of about 4.5. Store in airtight containers.

Profile

Pramocaine hydrochloride is a local anaesthetic (p.1850) used for surface anaesthesia. It is used alone or with corticosteroids and other drugs, usually in a concentration of 1%, in a wide range of formulations for the relief of pain and itching associated with minor skin conditions and anorectal disorders. Initial burning or stinging may occur following topical application. It should not be used for the nose or eyes. The base has been used similarly.

Preparations

USP 31: Neomycin and Polymyxin B Sulfates and Pramoxine Hydrochloride Cream; Pramoxine Hydrochloride Cream; Pramoxine Hydrochloride Jelly.

Proprietary Preparations (details are given in Part 3)
Fr.: Tronothane; ***Israel:*** Anti Itch; ***Ital.:*** Tronotene; ***S.Afr.:*** Anugesic; ***Spain:*** Balsabit; Pramox; ***USA:*** Campho-Phenique Cold Sore Treatment & Scab Relief; Fleet Pain Relief; Pramox; Prax; Proctofoam; Sarna Sensitive Anti-Itch; Tronothane.

Multi-ingredient: ***Arg.:*** Anusol Duo; Anusol Duo S; Anusol-A; Tocorectal; ***Belg.:*** Nestosyl; ***Canad.:*** Anugesic-HC; Anusol Plus; Anuzinc HC Plus; Anuzinc Plus; Aveeno Anti-Itch; Caladryl; Hemorrhoid Ointment; Onguent Hemorrhoidal; Polysporin Itch Relief; PrameGel; Pramox HC; Proctodan-HC; Proctofoam-HC; Sarna-P; ***Chile:*** Caladryl Clear; ***Irl.:*** Anugesic-HC; Proctofoam-HC; ***Israel:*** Epifoam; Hemorid; Procto-Glyvenol; Proctofoam-HC; ***Ital.:*** Proctofoam-HC; ***Mex.:*** Caladryl Clear; Soyaloid Apruri; ***Neth.:*** Nestosyl; ***S.Afr.:*** Anugesic; Proctofoam†; ***UK:*** Anugesic-HC; Proctofoam-HC; ***USA:*** 1 + 1-F; AmLactin AP; Analpram-HC; Anusol; Bactine Pain Relieving Cleansing; Betadine Plus First Aid Antibiotics & Pain Reliever; Bite & Itch Lotion; Caladryl; Caladryl Clear; Cortane-B; Cortic ND; Cyotic; Enzone; Epifoam; HC Pramoxine; Hemorid For Women; Itch-X; Mediotic-HC; Neosporin + Pain Relief; Novacort; Oti-Med†; Otomar-HC; Phicon; Phicon-F; PrameGel; Pramosone; PramOtic; Preparation H; Proctofoam-HC; Sarna Ultra; Summers Eve Anti-Itch; Tri-Biozene; Tri-Otic†; Tronolane; Tucks; Zone-A; Zoto-HC.

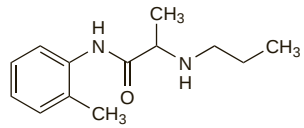
Prilocaine *(BAN, USAN, rINN)*

Prilocaína; Prilocaïne; Prilocainum; Prilokaiini; Prilokain; Prilokainas. 2-Propylaminopropiono-*o*-toluidide.

Прилокаин

$C_{13}H_{20}N_2O$ = 220.3.

CAS — 721-50-6.
ATC — N01BB04.
ATC Vet — QN01BB04.



Pharmacopoeias. In *Eur.* (see p.vii) and *US.*
Ph. Eur. 6.2 (Prilocaine). A white or almost white, crystalline powder. M.p. 36° to 39°. Slightly soluble in water; very soluble in alcohol and in acetone.
USP 31 (Prilocaine). A white or almost white powder or crystal aggregates. M.p. 36° to 39°. Slightly soluble in water; very soluble in alcohol and in acetone. Store at a temperature below 25°.

Eutectic mixture. Prilocaine forms a mixture with lidocaine that has a melting-point lower than that of either ingredient. This eutectic mixture is used in the preparation of topical dosage forms.

Prilocaine Hydrochloride *(BANM, USAN, rINNM)*

Astra-1512; Hidrocloruro de prilocaína; L-67; Prilocaïne, chlorhydrate de; Prilocaini hydrochloridum; Prilokaiinihydrokloridi; Prilokain Hidroklorür; Prilokain hydrochlorid; Prilokain-hidroklorid; Prilokainhydroklorid; Prilokaino hidrochloridas; Propitocaine Hydrochloride.

Прилокаина Гидрохлорид

$C_{13}H_{20}N_2O$,HCl = 256.8.

CAS — 721-50-6 (prilocaine); 1786-81-8 (prilocaine hydrochloride).
ATC — N01BB04.
ATC Vet — QN01BB04.

Pharmacopoeias. In *Eur.* (see p.vii) and *US.*
Ph. Eur. 6.2 (Prilocaine Hydrochloride). A white or almost white, crystalline powder or colourless crystals. M.p. 168° to 171°. Freely soluble in water and in alcohol; very slightly soluble in acetone.
USP 31 (Prilocaine Hydrochloride). A white odourless crystalline powder. M.p. 166° to 169°. Soluble 1 in 3.5 of water, 1 in 4.2 of alcohol, and 1 in 175 of chloroform; very slightly soluble in acetone; practically insoluble in ether.

pH of solutions. For a discussion of the effect that pH has on the stability of local anaesthetic solutions and the pain associated with their injection, see p.1852.

Adverse Effects, Treatment, and Precautions

As for Local Anaesthetics in general, p.1850.

Prilocaine has relatively modest toxicity compared with most amide-type local anaesthetics. However, dose-related methaemoglobinaemia and cyanosis, attributed to the metabolite *o*-toluidine, appear to occur more frequently with prilocaine than with other local anaesthetics (see Methaemoglobinaemia, p.1850). Symptoms usually occur when doses of prilocaine hydrochloride exceed about 8 mg/kg but the very young may be more susceptible. Methaemoglobinaemia has been observed in neonates whose mothers received prilocaine shortly before delivery and it has also been reported after prolonged topical application of a prilocaine/lidocaine eutectic mixture in children. (See under Surface Anaesthesia in Lidocaine, p.1866 for precautions to be observed with such a eutectic mixture.) Methaemoglobinaemia may be treated by giving oxygen followed, if necessary, by an injection of methylthioninium chloride.

Prilocaine is contra-indicated for paracervical block in obstetrics.

Prilocaine should be avoided in patients with anaemia, congenital or acquired methaemoglobinaemia, cardiac or ventilatory failure, or hypoxia.

Effects on the CNS. For reference to the prilocaine serum concentrations associated with CNS toxicity, see Absorption under Pharmacokinetics, below.

Porphyria. Prilocaine has been associated with acute attacks of porphyria and is considered unsafe in porphyric patients.

Interactions

For interactions associated with local anaesthetics, see p.1851.

Methaemoglobinaemia may occur at lower doses of prilocaine in patients receiving therapy with other drugs known to cause such conditions (e.g. sulfonamides such as sulfamethoxazole in co-trimoxazole).

Neuromuscular blockers. For a possible interaction between *mivacurium* and prilocaine, see under Atracurium, p.1904.

Pharmacokinetics

Prilocaine is reported to be 55% bound to plasma proteins. It is rapidly metabolised mainly in the liver and also in the kidneys and is excreted in the urine mainly as metabolites. One of the principal metabolites excreted in the urine is *o*-toluidine, which is believed to cause the methaemoglobinaemia observed after large doses. Prilocaine crosses the placenta and during prolonged epidural anaesthesia may produce methaemoglobinaemia in the fetus. It is distributed into breast milk.

See also under Local Anaesthetics, p.1852.

Absorption. Peak serum concentrations of prilocaine hydrochloride attained after the use of 8.5 mL of a 1% solution for retrobulbar and facial nerve block were well below the concentration of 20 micrograms/mL associated with CNS toxicity due to prilocaine.[1]

1. Goggin M, *et al.* Serum concentrations of prilocaine following retrobulbar block. *Br J Anaesth* 1990; **64:** 107–9.

Uses and Administration

Prilocaine is a local anaesthetic of the amide type with actions and uses similar to those described on p.1852. It has a similar anaesthetic potency to lidocaine. However, it has a slower onset of action, less vasodilator activity, and a slightly longer duration of action; it is also less toxic. Prilocaine hydrochloride is used for infiltration anaesthesia and nerve blocks in solutions of 0.5%, 1%, and 2%. A 1% solution is also used for epidural analgesia and a 2% solution is used for epidural anaesthesia; for intravenous regional anaesthesia 0.5% solutions are used. A 3% solution with the vasoconstrictor felypressin (p.2302) or a 4% solution without are used for dental procedures. A 4% solution with adrenaline 1 in 200 000 is also used for dentistry in

some countries. Carbonated solutions of prilocaine have also been tried in some countries in epidural and brachial plexus nerve blocks (see under Administration, p.1852). Prilocaine is used for surface anaesthesia in a eutectic mixture with lidocaine. (Local anaesthetic techniques are discussed on p.1853.)

The dosage used in various **local anaesthetic procedures** varies with the site of injection and the procedure used. The recommended **maximum single dose** in adults for prilocaine hydrochloride is 400 mg if used alone, or 300 mg if used with felypressin. Doses should be reduced in elderly or debilitated patients. The dose for children over 6 months of age is up to 5 mg/kg. For *dental infiltration* or *dental nerve blocks*, the usual adult dose of prilocaine hydrochloride without felypressin is 40 to 80 mg (1 to 2 mL) as a 4% solution; children under 10 years generally require about 40 mg (1 mL). Similar doses of the 4% solution with adrenaline (1:200 000) may be used for most routine dental procedures. The usual adult dose of prilocaine hydrochloride with felypressin 0.03 international units/mL is 30 to 150 mg (1 to 5 mL) as a 3% solution; children under 10 years generally require 30 to 60 mg (1 to 2 mL).

A eutectic mixture of prilocaine base 2.5% and lidocaine base 2.5% (see Surface Anaesthesia, under Lidocaine, p.1866) is applied as a cream under an occlusive dressing to produce *surface anaesthesia* of the skin before procedures requiring needle puncture, surgical treatment of localised lesions, and split skin grafting; it has been used similarly, but without an occlusive dressing, before removal of genital warts.

Action. For a comparison of the vasoactivity of prilocaine and some other local anaesthetics, see p.1852.

Infiltration anaesthesia. Addition of felypressin at a concentration of 0.03 international units/mL to prilocaine 3% injection did not reduce plasma concentrations of prilocaine after infiltration of a 60-mg dose into the upper premolar region.[1]

1. Cannell H, Whelpton R. Systemic uptake of prilocaine after injection of various formulations of the drug. *Br Dent J* 1986; **160:** 47–9.

Preparations

BP 2008: Prilocaine Injection;
USP 31: Lidocaine and Prilocaine Cream; Prilocaine and Epinephrine Injection; Prilocaine Hydrochloride Injection.

Proprietary Preparations (details are given in Part 3)

Austral.: Citanest; Citanest Dental; ***Belg.:*** Citanest; ***Braz.:*** Citanest; Citocaina; ***Canad.:*** Citanest†; ***Denm.:*** Citanest Octapressin; ***Fin.:*** Citanest Octapressin; ***Ger.:*** Xylonest; ***Ital.:*** Citanest con Octapressin; ***Mex.:*** Citanest Octapresin†; Pristesin F; ***Neth.:*** Citanest; Citanest Octapressine; ***Norw.:*** Citanest Octapressin; ***NZ:*** Citanest; Citanest with Octapressin†; ***Spain:*** Citanest; Citanest Octapressin; ***Swed.:*** Citanest; Citanest Octapressin; ***Switz.:*** Citanest Octapressin; Xylonest; ***Turk.:*** Citanest; Citanest Octapressin; ***UK:*** Citanest; Citanest with Octapressin; ***USA:*** Citanest.

Multi-ingredient: ***Arg.:*** Emla; ***Austral.:*** Emla; ***Austria:*** Emla; ***Belg.:*** Emla; ***Braz.:*** Emla; ***Canad.:*** Emla; ***Chile:*** Eutecaina; ***Cz.:*** Emla; ***Denm.:*** Emla; Oraqix; ***Fin.:*** Emla; Oraqix; ***Fr.:*** Emla; Emlapatch; Oraqix; ***Ger.:*** Emla; ***Gr.:*** Emla; Prinex; ***Hong Kong:*** Emla; ***Indon.:*** Emla; Estesia; Topsy; ***Irl.:*** Emla; ***Israel:*** Emla; ***Ital.:*** Emla; ***Malaysia:*** Emla; ***Mex.:*** Emla; ***Neth.:*** Emla; Oraqix; ***Norw.:*** Emla; Oraqix; ***NZ:*** Emla; ***Philipp.:*** Emla; ***Pol.:*** Emla; ***Port.:*** Emla; Oraqix; ***Rus.:*** Emla (Эмла); ***S.Afr.:*** Emla; Topla; ***Singapore:*** Emla; ***Spain:*** Emla; ***Swed.:*** Emla; Oraqix; ***Switz.:*** Emla; ***Thai.:*** Emla; ***Turk.:*** Emla; ***UK:*** Emla; Oraqix; ***USA:*** Emla.

Procaine Hydrochloride *(BANM, rINNM)*

Allocaine; Ethocaine Hydrochloride; Hidrocloruro de procaína; Novocainum; Procaïne, chlorhydrate de; Procaini hydrochloridum; Procainii Chloridum; Procainium Chloride; Prokaiinihydrokloridi; Prokain Hidroklorür; Prokain-hidroklorid; Prokain-hydrochlorid; Prokainhydroklorid; Prokaino hidrochloridas; Prokainy chlorowodorek; Syncaine. 2-Diethylaminoethyl 4-aminobenzoate hydrochloride.

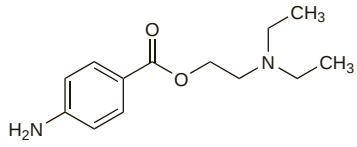
Прокаина Гидрохлорид

$C_{13}H_{20}N_2O_2$,HCl = 272.8.

CAS — 59-46-1 (procaine); 51-05-8 (procaine hydrochloride).

ATC — C05AD05; N01BA02; S01HA05.

ATC Vet — QC05AD05; QN01BA02; QS01HA05.



(procaine)

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, *US*, and *Viet.*

Ph. Eur. 6.2 (Procaine Hydrochloride). A white or almost white crystalline powder or colourless crystals. Very soluble in water; soluble in alcohol. A 2% solution in water has a pH of 5.0 to 6.5. Protect from light.

USP 31 (Procaine Hydrochloride). Odourless, small, white crystals or white, crystalline powder. Soluble 1 in 1 of water and 1 in 15 of alcohol; slightly soluble in chloroform; practically insoluble in ether.

Incompatibility. Procaine hydrochloride has been reported to be incompatible with aminophylline, barbiturates, magnesium sulfate, phenytoin sodium, sodium bicarbonate, and amphotericin B.

Stability of solutions. Degradation of procaine in a cardioplegic solution containing magnesium, sodium, potassium, and calcium salts was found to be temperature dependent.[1] At a storage temperature of 6° the shelf-life of the solution was 5 weeks and this was increased to 9 weeks when the storage temperature was –10°. Using carbon dioxide instead of nitrogen in the head space did not affect stability of procaine.

1. Synave R, *et al*. Stability of procaine hydrochloride in a cardioplegic solution containing bicarbonate. *J Clin Hosp Pharm* 1985; **10:** 385–8.

Adverse Effects, Treatment, and Precautions

As for Local Anaesthetics in general, p.1850.

Effects on the cardiovascular system. Severe hypotension leading to cardiac arrest and death developed in a patient following the infusion of 600 mg of procaine for malignant hyperthermia.[1]

1. MacLachlan D, Forrest AL. Procaine and malignant hyperthermia. *Lancet* 1974; **i:** 355.

Hypersensitivity. Of 600 persons with dermatitis or eczema submitted to patch testing with 2% aqueous solution of procaine hydrochloride, 4.8% gave a positive reaction.[1]

For reports of hypersensitivity including anaphylactic reactions associated with procaine and other local anaesthetics, see under Adverse Effects of Local Anaesthetics, p.1850.

1. Rudzki E, Kleniewska D. The epidemiology of contact dermatitis in Poland. *Br J Dermatol* 1970; **83:** 543–5.

Systemic lupus erythematosus. The limited theoretical risk from using procaine for local anaesthesia in patients who have had procainamide-induced SLE was aired some years ago.[1-3]

1. Dubois EL. Procaine anesthesia after procainamide-induced systemic erythematosus. *JAMA* 1977; **238:** 2201.
2. Alarcón-Segovia D. Procaine anesthesia after procainamide-induced systemic erythematosus. *JAMA* 1977; **238:** 2201.
3. Lee SL. Procaine anesthesia after procainamide-induced systemic erythematosus. *JAMA* 1977; **238:** 2201.

Interactions

For interactions associated with local anaesthetics, see p.1851.

Diuretics. Use with *acetazolamide* extends the plasma half-life of procaine.[1]

1. Calvo R, *et al*. Effects of disease and acetazolamide on procaine hydrolysis by red blood cell enzymes. *Clin Pharmacol Ther* 1980; **27:** 179–83.

Pharmacokinetics

Procaine is poorly absorbed from mucous membranes and is usually given parenterally. It is rapidly hydrolysed by plasma cholinesterase to para-aminobenzoic acid and diethylaminoethanol; some may also be metabolised in the liver. Only about 6% is bound to plasma proteins. About 80% of the para-aminobenzoic acid is excreted unchanged or conjugated in the urine. About 30% of the diethylaminoethanol is excreted in the urine, the remainder being metabolised in the liver.

See also under Local Anaesthetics, p.1852.

Uses and Administration

Procaine hydrochloride, a para-aminobenzoic acid ester, is a local anaesthetic with actions and uses similar to those described on p.1852. Because of its poor penetration of intact mucous membranes, procaine is ineffective for surface application and has been chiefly used by injection, although in general it has been replaced by lidocaine and other local anaesthetics. It has a slow onset of action and a short duration of action. It has vasodilator activity and therefore a vasoconstrictor may be added to delay absorption and increase the duration of action. Procaine has mainly been used for infiltration anaesthesia, peripheral nerve blocks, and spinal block. (Local anaesthetic techniques are discussed on p.1853.) It has also been used in cardioplegic solutions to protect the myocardium during cardiac surgery.

For *infiltration anaesthesia* 0.25 or 0.5% solutions of procaine hydrochloride have been used in doses of 350 to 600 mg.

For *peripheral nerve block* a usual dose of 500 mg of procaine hydrochloride has been given as a 0.5% (100 mL), 1% (50 mL), or 2% (25 mL) solution. Doses up to 1 g have been used. For infiltration and peripheral nerve block adrenaline has been added to solutions, in general to give a final concentration of 1 in 200 000 to 1 in 100 000.

Procaine hydrochloride has been used with propoxycaine in dentistry.

Procaine forms poorly soluble salts or conjugates with some drugs, for example penicillin, and is used to prolong their action after injection. It may also reduce the pain of injection.

Procaine-*N*-glucoside hydrochloride has been included in a preparation for gastrointestinal disorders, and procaine ascorbate has been included in a multivitamin preparation.

Action. For a comparison of the vasoactivity of procaine and some other local anaesthetics, see p.1852.

Preparations

USP 31: Procaine and Tetracaine Hydrochlorides and Levonordefrin Injection; Procaine Hydrochloride and Epinephrine Injection; Procaine Hydrochloride Injection; Propoxycaine and Procaine Hydrochlorides and Levonordefrin Injection; Propoxycaine and Procaine Hydrochlorides and Norepinephrine Bitartrate Injection.

Proprietary Preparations (details are given in Part 3)

Arg.: Endocaina†; Fadacaina; Procanest; ***Austria:*** Geroaslan H3; Gerovital H3; Novanaest; ***Canad.:*** Novocain†; ***Ger.:*** Hewedolor Procain; Lophakomp-Procain; Novocain†; Pasconeural-Injektopas; ***Hong Kong:*** Gerovital H3; ***Ital.:*** Lenident; ***USA:*** Novocain; ***Venez.:*** Artrocel; Bioquel; Genaplex.

Multi-ingredient: ***Arg.:*** 6 Copin; Dastonil; Gero H3 Aslan†; Gingeron; Muco-Anestyl†; Otalex G; Otonorthia; Sicadentol Plus†; ***Austral.:*** Cardioplegia Concentrate; ***Austria:*** Aslavital; Causat; Gerontin; KH3; Regenerin†; ***Braz.:*** Aftine; Algidente†; Bismu-Jet; Claudemor; Colutoide; Dentisan; Fonergin; Otobel†; Otoloide; Oturga; Passaja†; Pradente†; Timpanol†; Usedent†; ***Chile:*** Betonvit†; Diltotal; KH3-Vit†; KH3†; Megavit†; Pantiban; ***Cz.:*** Solutan†; Solutio Thomas cum Procaino; ***Denm.:*** Kardioplex; ***Ger.:*** Bismolan N†; Cardioplegin N†; Gero H3 Aslan; Hewedolor plus Coffein; KH3†; NeyPulpin N (Revitorgan-Dilutionen N Nr 10)†; Otalgan; Polytamin†; Procaneural†; Revicain comp plus†; Revicain comp†; Revicain†; Veno-Kattwiga N†; ***Gr.:*** Cardioplegia; ***Hong Kong:*** Cardioplegia; KH3; ***Hung.:*** Hemorid; Noditran†; Trypsin†; ***Indon.:*** Cardioplegia; ***Israel:*** Bedodeka Antineuralgica†; ***Ital.:*** Dentosedina; Ginvapast; Mios; Neo-Ustiol; Otalgan; Otomidone; Otopax; Rinantipiol†; Ustiosan; ***Malaysia:*** Cardioplegia; ***NZ:*** KH3; ***Port.:*** Claudemor†; Otocalma†; ***Rus.:*** Solutan (Солутан); ***S.Afr.:*** Salusa†; Universal Earache Drops; ***Singapore:*** Cardioplegia; ***Spain:*** Anestesia Loc Braun S/A; Co Bucal; Coliriocilina Adren Astr; Dentol Topico; Eupnol; Kanafosal; Kanafosal Predni; Neocolan; Nulacin Fermentos; Oftalmol Ocular; Otalgan†; Otosedol; Tangenol†; ***Switz.:*** Anaestalgin; Ginvapast; Otalgan; Otosan; ***Thai.:*** Cardioplegia; KH3.

Used as an adjunct in: ***Arg.:*** Betametasona B12; ***Braz.:*** Cianotrat-Dexa; Dexa-Neuriberi†; Dexacobal; Dexador; Dexagil; Dexaneurin; ***Ger.:*** Eukalisan N; ***Ital.:*** Neuroftal†; ***Malaysia:*** Alinamin B12†; ***Singapore:*** Alinamin B12†; ***Spain:*** Sulmetin Papaverina†; Sulmetin†; ***USA:*** Hytinic†.

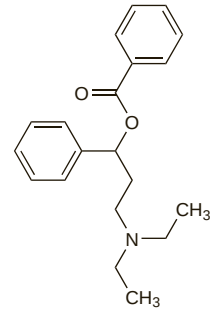
Propanocaine Hydrochloride *(rINNM)*

467D$_3$; Hidrocloruro de propanocaína; Propanocaïne, Chlorhydrate de; Propanocaini Hydrochloridum. 3-Diethylamino-1-phenylpropyl benzoate hydrochloride.

Пропанокаина Гидрохлорид

$C_{20}H_{25}NO_2$,HCl = 347.9.

CAS — 493-76-5 (propanocaine); 1679-79-4 (propanocaine hydrochloride).



(propanocaine)

Profile

Propanocaine hydrochloride, a benzoic acid ester, is a local anaesthetic (p.1850) that has been used topically for surface anaesthesia.