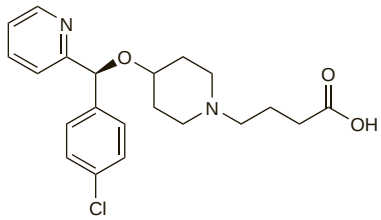
Bepotastine *(rINN)*

Bepotastina; Bépotastine; Bepotastinum; Betotastine. (+)-4-{[(*S*)-*p*-Chloro-α-2-pyridylbenzyl]oxy}-1-piperidinebutyric acid.

Бепотастин

$C_{21}H_{25}ClN_2O_3$ = 388.9.

CAS — 125602-71-3; 190786-43-7.



Bepotastine Besilate *(rINNM)*

Bépotastine, Bésilate de; Bepotastini Besilas; Besilato de bepotastina; Betotastine Besilate; TAU-284.

Бепотастина Безилат

$C_{21}H_{25}ClN_2O_3$, $C_6H_6O_3S$ = 547.1.

CAS — 190786-44-8.

Profile

Bepotastine is an antihistamine (p.561) used as the besilate in the treatment of allergic rhinitis. It is also used for the symptomatic relief of urticaria and pruritic skin disorders. The usual oral dose is 10 mg of bepotastine besilate twice daily.

Preparations

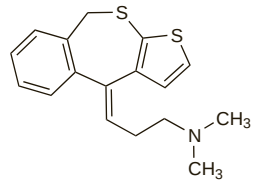
Proprietary Preparations (details are given in Part 3)
Jpn: Talion.

Bisulepin

4-[3-(Dimethylamino)propylidene]-4,9-dihydrothienol[2,3-*b*]benzo[e]thiepin.

$C_{17}H_{19}NS_2$ = 301.5.

CAS — 5802-61-9 (bisulepin); 1154-12-7 (bisulepin hydrochloride).



Profile

Bisulepin is given orally as an antihistamine; the hydrochloride salt is used similarly.

Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Dithiaden; ***Hung.:*** Dithiaden†.

Bromazine Hydrochloride *(BANM, rINNM)*

Bromazine, Chlorhydrate de; Bromazini Hydrochloridum; Bromodiphenhydramine Hydrochloride; Hidrocloruro de bromazina. 2-(4-Bromobenzhydryloxy)-*NN*-dimethylethylamine hydrochloride.

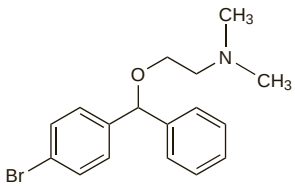
Бромазина Гидрохлорид

$C_{17}H_{20}BrNO,HCl$ = 370.7.

CAS — 118-23-0 (bromazine); 1808-12-4 (bromazine hydrochloride).

ATC — R06AA01.

ATC Vet — QR06AA01.



(bromazine)

Pharmacopoeias. In *US.*

USP 31 (Bromodiphenhydramine Hydrochloride). A white to pale buff-coloured, crystalline powder having no more than a faint odour. Soluble 1 in less than 1 of water, 1 in 2 of alcohol and of chloroform, 1 in 3500 of ether, and 1 in 31 of isopropyl alcohol; insoluble in petroleum spirit. Store in airtight containers.

Profile

Bromazine hydrochloride, a monoethanolamine derivative, is a sedating antihistamine (p.561) with antimuscarinic and marked sedative actions. It is used in combination preparations for the symptomatic treatment of coughs and the common cold (p.564) in an oral dose of 12.5 to 25 mg every 4 to 6 hours. The recommended maximum dose in such preparations is 150 mg daily. Children over 6 years of age may be given 6.25 to 12.5 mg every 6 hours.

Preparations

USP 31: Bromodiphenhydramine Hydrochloride and Codeine Phosphate Oral Solution; Bromodiphenhydramine Hydrochloride Elixir.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***USA:*** Ambenyl Cough Syrup; Amgenal Cough; Bromotuss with Codeine.

Brompheniramine Maleate

(BANM, rINNM)

Bromfeniramin Maleat; Bromfeniraminmaleat; Brómfeniraminmaleát; Bromfeniramin-maleinát; Bromfeniramino maleatas; Bromifeniramiinimaleaatti; Bromphéniramine, maléate de; Brompheniramini maleas; Maleato de bromfeniramina; Parabromdylamine Maleate. (±)-3-(4-Bromophenyl)-*NN*-dimethyl-3-(2-pyridyl)propylamine hydrogen maleate.

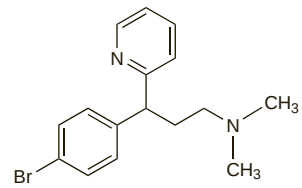
Бромфенирамина Малеат

$C_{16}H_{19}BrN_2,C_4H_4O_4$ = 435.3.

CAS — 86-22-6 (brompheniramine); 980-71-2 (brompheniramine maleate).

ATC — R06AB01.

ATC Vet — QR06AB01.



(brompheniramine)

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

Ph. Eur. 6.2 (Brompheniramine Maleate). A white or almost white, crystalline powder. Soluble in water; freely soluble in alcohol, in dichloromethane, and in methyl alcohol. A 1% solution in water has a pH of 4.0 to 5.0. Protect from light.

USP 31 (Brompheniramine Maleate). A white, odourless, crystalline powder. Soluble 1 in 5 of water, 1 in 15 of alcohol and of chloroform; slightly soluble in ether and in benzene. pH of a 1% solution in water is between 4.0 and 5.0. Store in airtight containers. Protect from light.

Incompatibility. Brompheniramine maleate has been reported to be incompatible with some amidotrizoate, adipiodone, and iotalamate salts.

Dexbrompheniramine Maleate *(BANM, rINNM)*

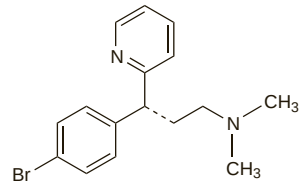
Dexbromphéniramine, Maléate de; Dexbrompheniramini Maleas; Maleato de dexbromfeniramina.

Дексбромфенирамина Малеат

CAS — 2391-03-9.

ATC — R06AB06.

ATC Vet — QR06AB06.



(dexbrompheniramine)

Pharmacopoeias. In *US.*

USP 31 (Dexbrompheniramine Maleate). A white, odourless, crystalline powder. It exists in two polymorphic forms, one melting between 106° and 107°, and the other between 112° and 113°; a mixture of the two forms may melt between 105° and 113°. Soluble 1 in 1.2 of water, 1 in 2.5 of alcohol, 1 in 2 of chloroform, and 1 in 3000 of ether. pH of a 1% solution in water is about 5. Store in airtight containers. Protect from light.

Adverse Effects and Precautions

As for the sedating antihistamines in general, p.561.

Breast feeding. The American Academy of Pediatrics[1] states that, although usually compatible with breast feeding, preparations used by breast-feeding mothers which contain dexbrompheniramine maleate with pseudoephedrine have resulted in crying, irritability, and poor sleep patterns in the infant.

1. American Academy of Pediatrics. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001; **108:** 776–89. Correction. *ibid.*; 1029. Also available at: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b108/3/776 (accessed 08/04/04)

Effects on the blood. A report[1] that agranulocytosis in a 34-year-old alcoholic man was possibly associated with brompheniramine therapy.

1. Hardin AS, Padilla F. Agranulocytosis during therapy with a brompheniramine-medication. *J Arkansas Med Soc* 1978; **75:** 206–8.

Extrapyramidal disorders. Facial dyskinesias have been reported[1,2] after use of antihistamines including brompheniramine or dexbrompheniramine maleate.

1. Thach BT, *et al.* Oral facial dyskinesia associated with prolonged use of antihistaminic decongestants. *N Engl J Med* 1975; **293:** 486–7 (brompheniramine maleate, chlorpheniramine maleate, and phenindamine tartrate).
2. Barone DA, Raniolo J. Facial dyskinesia from overdose of an antihistamine. *N Engl J Med* 1980; **303:** 107 (dexbrompheniramine maleate).

Withdrawal. Withdrawal symptoms have been reported[1] after stopping long-term therapy with brompheniramine maleate. A patient had been taking 48 mg almost every day for 20 years and developed tremor, nausea, depression, and apyrexial sweating within 48 hours of stopping treatment; symptoms resolved over the following weeks.

1. Kavanagh GM, *et al.* Withdrawal symptoms after discontinuation of long-acting brompheniramine maleate. *Br J Dermatol* 1994; **131:** 913–14.

Interactions

As for the sedating antihistamines in general, p.563.

Pharmacokinetics

Brompheniramine maleate appears to be well absorbed from the gastrointestinal tract after oral doses. Peak plasma concentrations are achieved within about 5 hours. An elimination half-life of about 25 hours has been reported. Unchanged drug and metabolites are excreted primarily in the urine.

◊ References.

1. Simons FER, *et al.* The pharmacokinetics and antihistaminic effects of brompheniramine. *J Allergy Clin Immunol* 1982; **70:** 458–64.
2. Paton DM, Webster DR. Clinical pharmacokinetics of H -receptor antagonists (the antihistamines). *Clin Pharmacokinet* 1985; **10:** 477–97.

Uses and Administration

Brompheniramine maleate, an alkylamine derivative, is a sedating antihistamine with antimuscarinic and moderate sedative actions.

Brompheniramine is a racemic mixture; dexbrompheniramine, the dextrorotatory isomer, has about twice the activity of brompheniramine by weight. Brompheniramine maleate and dexbrompheniramine maleate are used for the symptomatic relief of allergic conditions, mainly rhinitis (p.565) and conjunctivitis (p.564). They are common ingredients of compound preparations for the symptomatic treatment of coughs and the common cold (p.564). However, such preparations should be used with caution in children, and generally avoided in those under 2 years of age (see p.562). Brompheniramine tannate has been used similarly.

Brompheniramine maleate is given in usual oral doses of 4 to 8 mg three or four times daily. Children up to 3 years of age are given 0.4 to 1 mg/kg over 24 hours in four divided doses. Children aged 3 to 6 years are given 1 to 2 mg three or four times daily and those aged 6 to 12 years 2 to 4 mg three or four times daily.

Brompheniramine maleate has also been given by subcutaneous, intramuscular, or slow intravenous injection; the dose is usually 10 mg every 8 to 12 hours as necessary and the total parenteral dose should not exceed 40 mg in 24 hours.