

**Chronic obstructive pulmonary disease.** The value of mucolytic therapy in chronic obstructive pulmonary disease (COPD—p.1112) is controversial. Two studies have reported some improvements in lung function in patients with chronic bronchitis given carbocysteine for up to 6 months,<sup>1,2</sup> but it appeared to have no effect on the number of acute exacerbations.<sup>1</sup> However, later studies<sup>3,4</sup> have reported reductions in the number of acute exacerbations; the number of common colds was also lower in the carbocysteine group in one of the studies.<sup>4</sup> Carbocysteine may also produce some beneficial effects on sputum rheology.<sup>2,5</sup>

- Grillage M, Barnard-Jones K. Long-term oral carbocysteine therapy in patients with chronic bronchitis: a double blind trial with placebo control. *Br J Clin Pract* 1985; **39**: 395–8.
- Aylward M, et al. Clinical evaluation of carbocysteine (Mucolax) in the treatment of patients with chronic bronchitis: a double-blind trial with placebo control. *Clin Trials J* 1985; **22**: 36–44.
- Allegra L, et al. Prevention of acute exacerbations of chronic obstructive bronchitis with carbocysteine lysine salt monohydrate: a multicenter, double-blind, placebo-controlled trial. *Respiration* 1996; **63**: 174–80.
- Yasuda H, et al. Carbocysteine reduces frequency of common colds and exacerbations in patients with chronic obstructive pulmonary disease. *J Am Geriatr Soc* 2006; **54**: 378–80.
- Braga PC, et al. Identification of subpopulations of bronchitic patients for suitable therapy by a dynamic rheological test. *Int J Clin Pharmacol Res* 1989; **IX**: 175–82.

## Preparations

### Proprietary Preparations (details are given in Part 3)

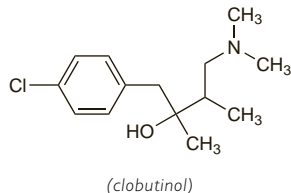
**Arg.:** Mucolitic; Salvitos; **Belg.:** Bronchathiol; Muco Rhinathiol; Mucocysteine; Romilar Mucolyticum; Siroxyl; Soludril Expectorans; **Braz.:** Carbocin; Carbofan; Carbotoss; Carboxil; Certuss; Flutoss; Fluizant; Mucocis; Mucocistein; Mucofan; Mucoflux; Mucolab; Mucolis; Mucolitic; Mucolix; Mucotoss; **Chile:** Coidin; **Cz.:** Fenorin; Mucopront; Pectodril; Rhinathiol; **Fin.:** Reodyn; Toleclapet; **Fr.:** Actifed Expectorant; Bronchathiol; Bronchod; Broncodar; Broncorinol Expectorant; Bronkirex; Codotussyl Expectorant; Dimotapp Expectorant; Drill Expectorant; Ergix; Exotoux; Fluditec; Fluvic; Humex Expectorant; Muciclar; Pectosan Expectorant; Pharmakod expectorant; Rhinathiol; Sirop des Vosges Expectorant; Solutricine Expectorant; Toclase Expectorant; Tussilene; **Ger.:** Mucopront; Sedotussin mucot; Transbronchin; **Gr.:** Alistam; Bronchiole; Cefavit; Chilvac; Divalio; Duxil; Ectofos; Estival; Mucorem; Mucothiol; Pneumol; Pulmodase; Santamex-Expectorant; Santamex; Trusil; **Hong Kong:** Fluifort; Mucospect; Purasol; Rhinathiol; Solmux; **Hung.:** Drill Expectorant; Fenorin; Mucopront; Neo Citran Expectorant; Rhinathiol; Solucis; **Indon.:** Broncholit; Mucocil; Solmux; **Il.:** Berylin Clear Action; Exputex; Mucodyne; Mucogen; Mucolax; Pulmodase; Viscolax; **Israel:** Mical; Mucolit; Mucomed; **Ital.:** Broncomucil; Bronx; Carbocit; Fluifort; Lisomucl; Mucocis; Mucocet; Mucolase; Mucostar; Mucotris; Polifluidil; Polimucil; Reomucil; Sinecod Tosse Fluidificante; Solucis; Tossefluid; **Jpn.:** Mucodyne; **Malaysia:** Fluifort; Kastipron; Mucopront; Pabron Cough; Rhinathiol; SCMC; **Mex.:** Arbutin; Mucolin; **Neth.:** Dampo Solvopect; Mucodyne; Pectocold; Rami; Slijmplossende; Rhinathiol; **Philipp.:** Abluent; Allen; Ameustyn; Bromycil; Bronccent; Broxytone; Carbollem; Carbosol; Cysdexpe; Emuxel; Esboxyl; Fayerex; Fluralex; Genecar; Lofenin; Loviscol; Mediphlegm; Pertussin; Phlegmol; Solmux; Solpim; Trimulex; Westcarbox; Zylotin; Zymelytic; **Pol.:** Mukolina; PectoDrill; **Port.:** Drill Mucolitic; Finatux; Mucolax; Mucorespirall; Mucorhinathiol Infantil; Mucorhinathiol Mucoral; Pulmiben; Pulmodase; **Rus.:** Bronchobos (Бронхобос); Fluditec (Флюдитек); Fluifort (Флуифорт); Mucodin (Мукодин); **S.Afr.:** Acuphlem; Betaphlem; Bronchette; Co-Flem; Flemex; Flemgo; Flemite; Lessmusec; Medphlem; Mucocaps; Mucollem; Mucolax; Mucolinct; Mucoprop; Mucospect; **Singapore:** Mucopront; Rhinathiol; SCMC; **Spain:** Actithiol; Anatac; Fluidin Mucolitic; Iniston Mucolitic; Mucovital; Pectodril; Pectox; Viscoteina; **Switz.:** Mephathiol; Mucogera; Mucoseptal; Pectox; Rhinathiol; Tussantil; **Thai.:** Amicof; Bocylin; Carbocter; Carbomed; Cisteine; Exflem; Flemex; Fluifort; I-Cof; Mucolax; Mucomex; Mucopront; Muffex; Murhinal; Rhinathiol; Rhinex; Siflex; Solmux; Throatil-CBS; **Turk.:** Mucocis; Mukoliz; Mukotik; **UK:** Mucodyne; **Venez.:** Broxollem; Cisteinol; Gulaper; Loganil; Loviscol; Mucofar; Mucopront.

**Multi-ingredient Arg.:** Mucolitic Antitusivo; Polimucil; **Fr.:** Rhinathiol Promethazine; **Gr.:** Carbozor; Flemagon; Grupozil; Gutman; Mucosteine; Pneumol Plus; Polimucil; Respinorm; Sevelny; Sobrein; Sorbexyl; Vanesin; **Hong Kong:** Mucosin; Rhinathiol Promethazine; **India:** Caceff; Carbomox; Moxycarb-DT; **Ital.:** Bronchofluid; Keraflex; Libexin Mucolitic; **Malaysia:** Mucocae Plus; Rhinathiol Promethazine; SCMC Promethazine; **Mex.:** Mucolin A; **Philipp.:** Solmux-Broncho (Reformulated); **Port.:** Bronquial; Niflux; **Singapore:** Rhinathiol Promethazine; **Spain:** Actithiol Antihist; Bronquicistina; Eduprim Mucolitic; **Switz.:** Rhinathiol Promethazine; Triofan.

## Clobutolol Hydrochloride (rINN)

Clobutolol, Chlorhydrate de; Clobutololi Hydrochloridum; Hidrocloruro de clobutolol; KAT-256. 2-(4-Chlorobenzyl)-3-(dimethylaminomethyl)butan-2-ol hydrochloride.

Клобутинола Гидрохлорида  
C<sub>14</sub>H<sub>22</sub>ClNO<sub>2</sub>·HCl = 292.2.  
CAS — 14860-49-2 (clobutolol); 1215-83-4 (clobutolol hydrochloride).  
ATC — R05DB03.  
ATC Vet — QR05DB03.



## Profile

Clobutolol hydrochloride is a centrally acting cough suppressant for non-productive cough (p.1547) that has been given orally in doses of 40 to 80 mg three times daily; it has also been given by subcutaneous, intramuscular, or intravenous injection. However, the EMEA has recommended for its withdrawal due to the risk of QT interval prolongation.

## Preparations

### Proprietary Preparations (details are given in Part 3)

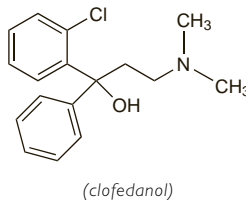
**Arg.:** Proking; Silomat; **Austria:** Silomat; **Belg.:** Silomat; **Braz.:** Silomat; **Chile:** Broncodual; Calfetos; Clobatos; Cloval; Pulbronc Simple; Silomat; **Cz.:** Silomat; **Fin.:** Mixtus; Silomat; **Fr.:** Silomat; **Ger.:** Hustenstiller; Nullatus; Rofatus; Silomat; stas-Hustenstiller N; Tused; **Gr.:** Silomat; **Ital.:** Silomat-Fher; **Malaysia:** Silomat; **Port.:** Silomat; **Singapore:** Silomat; **Thai.:** Silomat; **Venez.:** Silomat.

**Multi-ingredient Arg.:** Bronquisedan; Bronquisedan Mucolítico; **Braz.:** Hytos Plus; Silomat Plus; **Chile:** Broncodual Compuesto; Cloval Compuesto; Pulbronc; Solvanol; Tusabron; Vapoflu; **Fr.:** Silomat; **Indon.:** Silomat Compositum; **S.Afr.:** Silomat DA; **UAE:** Orcinol; **Venez.:** Silomat Compositum.

## Clofedanol Hydrochloride (BANM, rINNM)

Chlophedianol Hydrochloride (USAN); Clofédanol, Chlorhydrate de; Clofedanol Hydrochloridum; Hidrocloruro de clofedanol; SL-501. 2-Chloro- $\alpha$ -(2-dimethylaminoethyl)benzyl alcohol hydrochloride.

Клофеданола Гидрохлорида  
C<sub>17</sub>H<sub>20</sub>ClNO<sub>2</sub>·HCl = 326.3.  
CAS — 791-35-5 (clofedanol); 511-13-7 (clofedanol hydrochloride).  
ATC — R05DB10.  
ATC Vet — QR05DB10.



## Pharmacopoeias. In Jpn.

## Profile

Clofedanol hydrochloride is a centrally acting cough suppressant for non-productive cough (p.1547) that has been given in oral doses of 25 mg three or four times daily. For children's doses, see Administration in Children, below.

**Administration in children.** The following oral doses of clofedanol hydrochloride have been recommended for children:

- 2 to 6 years: 12.5 mg 3 or 4 times daily
- 6 to 12 years: 12.5 to 25 mg 3 or 4 times daily

## Preparations

### Proprietary Preparations (details are given in Part 3)

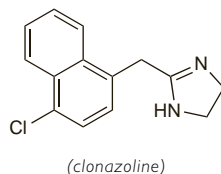
**Canad.:** Ulone; **Hong Kong:** Coldrin; **Singapore:** Coldrin; **Spain:** Gentos.

**Multi-ingredient Arg.:** Bronco Biotaer; Causalon Bronquial; Coifron; Gentibron; Neo-Tosel; Notozin; Pectoral Hebert; Selectus FN; Torfan H; Toxam; Toxambay; **Chile:** Bauxol; Brontal; Coifron; Dialcion; Kolibel; Mucobrol.

## Clonazoline Hydrochloride (rINN) ⊗

Clonazoline, Chlorhydrate de; Clonazolini Hydrochloridum; Hidrocloruro de clonazolina. 2-[[4-Chloro-1-naphthyl)methyl]-2-imidazole hydrochloride.

Клоназолина Гидрохлорида  
C<sub>14</sub>H<sub>13</sub>ClN<sub>2</sub>·HCl = 281.2.  
CAS — 17692-28-3 (clonazoline); 23593-08-0 (clonazoline hydrochloride).



## Profile

Clonazoline hydrochloride is a sympathomimetic with effects similar to those of naphazoline (p.1565) used for its vasoconstrictor activity in the local treatment of nasal congestion (p.1548).

## Preparations

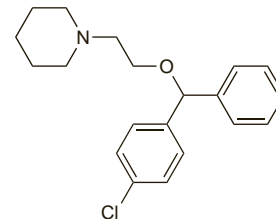
### Proprietary Preparations (details are given in Part 3)

**Multi-ingredient Ital.:** Localyn.

## Cloperastine (rINN)

Cloperastina; Clopéastine; Cloperastinum; HT-11. 1-{2-[(p-Chloro- $\alpha$ -phenylbenzyl)oxy]ethyl}piperidine.

Клоперастин  
C<sub>20</sub>H<sub>24</sub>ClNO = 329.9.  
CAS — 3703-76-2 (cloperastine); 132301-89-4 (levocloperastine).  
ATC — R05DB21.  
ATC Vet — QR05DB21.



## Cloperastine Fendizoate (rINNM)

Clopéastine, Fendizoate de; Cloperastine Hydroxyphenylbenzoyl Benzoic Acid; Cloperastine Phendizoate; Cloperastini Fendizoas; Fendizoate de cloperastina.

Клоперастина Фендизоат  
C<sub>20</sub>H<sub>24</sub>ClNO<sub>2</sub>·C<sub>20</sub>H<sub>14</sub>O<sub>4</sub> = 648.2.  
CAS — 85187-37-7 (cloperastine fendizoate); 220329-19-1 (levocloperastine fendizoate).  
ATC — R05DB21.  
ATC Vet — QR05DB21.

## Cloperastine Hydrochloride (rINNM)

Clopéastine, Chlorhydrate de; Cloperastini Hydrochloridum; Hidrocloruro de cloperastina.

Клоперастина Гидрохлорида  
C<sub>20</sub>H<sub>24</sub>ClNO<sub>2</sub>·HCl = 366.3.  
CAS — 14984-68-0.  
ATC — R05DB21.  
ATC Vet — QR05DB21.

## Pharmacopoeias. In Jpn.

## Profile

Cloperastine is primarily a centrally acting cough suppressant for non-productive cough (p.1547). It also has some antihistaminic action. The hydrochloride has been given orally as tablets in usual doses of 10 to 20 mg three times daily. Cloperastine fendizoate is used in oral liquid preparations in equivalent doses. Cloperastine fendizoate 17.7 mg is equivalent to about 10 mg of cloperastine hydrochloride. Levocloperastine fendizoate has been used similarly.

## References.

- Aliprandi P, et al. Levocloperastine in the treatment of chronic nonproductive cough: comparative efficacy versus standard antitussive agents. *Drugs Exp Clin Res* 2004; **30**: 133–41.

## Preparations

### Proprietary Preparations (details are given in Part 3)

**Belg.:** Lysotossil; Novotossil; **Seiki:** Seki; **Hong Kong:** Uncough; **Ital.:** Cloel; Clofend; Mitussil; Nitossil; Politosse; Privituss; Quic; Seki; **Jpn.:** Hustazol; **Malaysia:** Copastin; **Mex.:** Privituss; **Port.:** Tecnofox; **Spain:** Flutox; Sekisan.

**Multi-ingredient Chi.:** Hustazol-C.

## Cocillana

Grape Bark; Guapi Bark; Huapi Bark.

Коккилана  
CAS — 1398-77-2.

## Profile

Cocillana is the dried bark of *Guarea guidonia* (*G. rusbyi*, *Sycocarpus rusbyi*, *G. trichilioides*; Meliaceae), a South American tree. It is used as an expectorant similarly to ipecacuanha (p.1562). It has been used in large doses as an emetic.

## Preparations

### Proprietary Preparations (details are given in Part 3)

**Fin.:** Codetabs.

**Multi-ingredient Braz.:** Elixir de Marinheiro; **Canad.:** Alsidrine; Sirop Cocillana Codeine; Sirop Cocillana Compose; **Fin.:** Codesan Com; Codesan N; **Hong Kong:** Coci-Fedra; Coci-Fedra-C; Cocillana Christo; Cocillana Compound; Dextrocil; Eurocilana; Mefedra-N; **Ital.:** Broncosedina; **S.Afr.:** Cocillana Co; Corbar; **Swed.:** Cocillana-Etyfin; **Venez.:** Cerylana.