

**ЛЕКАРСТВЕНИ ПРОДУКТИ ЗА ЛЕЧЕНИЕ НА КАШЛИЦА**

**I. Потискащи кашлицата**

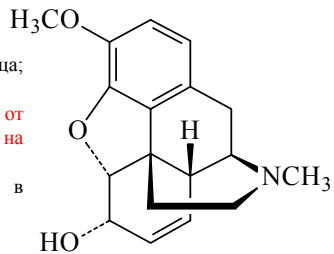
**1. Опиеви алкалоиди и производни**

**CODEINE**

Codeine – приложение:  
при умерена болка; кашлица;  
диария.

При пациенти – 20% от  
аналгетичния ефект на  
Morphine.

Codeine – метаболизира в  
черния дроб – Morphine.



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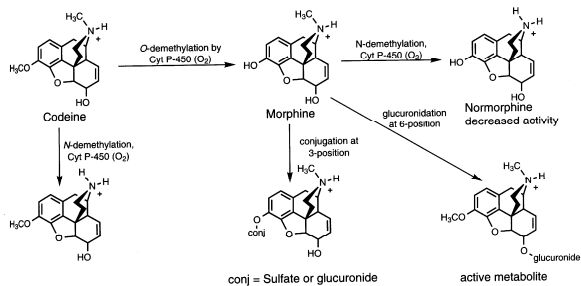
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**Метаболизъм на Codeine:**



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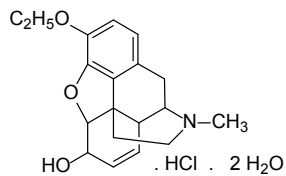
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**Aethylmorphine hydrochloride (Dionin)**



3-етокси-6-хидрокси 7,8-дидехидро-4,5-епокси-17-метилморфинан

полусинтетичен

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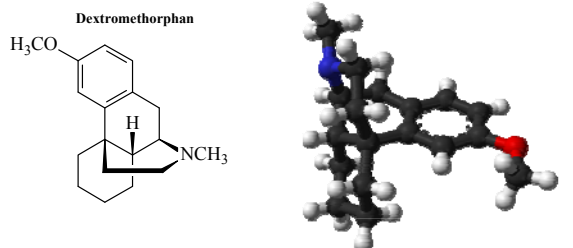
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**Dextromethorphan**



Във високи дози, dextromethorphan действа като дисоциативно халюциногенно средство. Механизмът на това действие се основава на антагонизъм спрямо NMDA рецепторите. Предиизвиква ефекти аналогични на тези на ketamine и phencyclidine (PCP).

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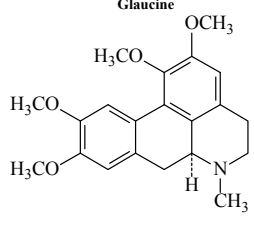
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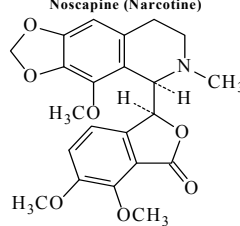
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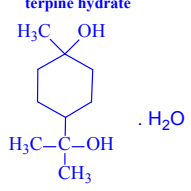

**Glucine**



**Noscapine (Narcotine)**



**terpine hydrate**


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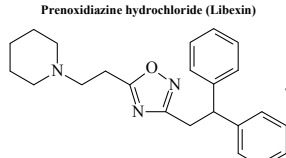
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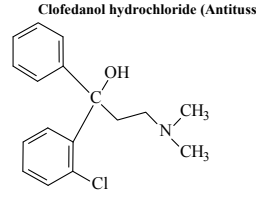
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**2. Синтетични антитусивни с друг строеж**

**Prenoxidazine hydrochloride (Libexin)**



**Clofedanol hydrochloride (Antitussin)**



• HCl

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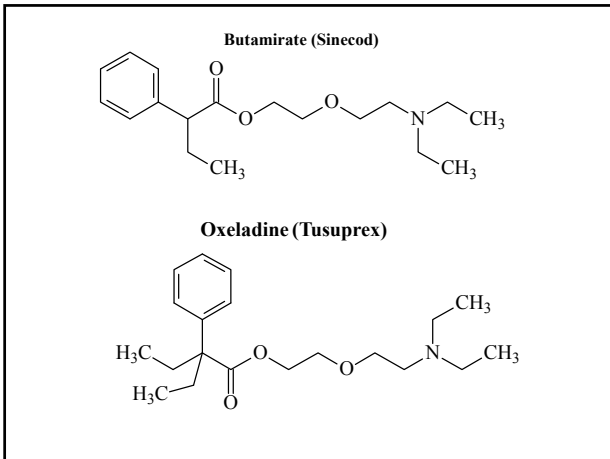
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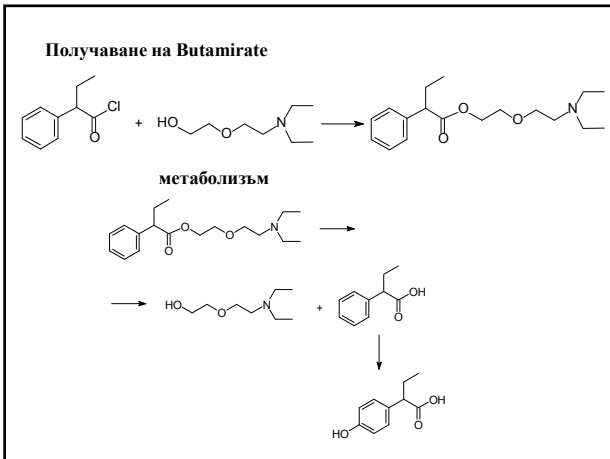
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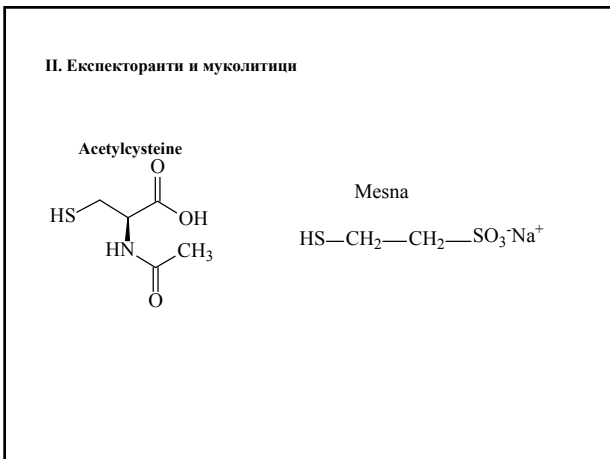
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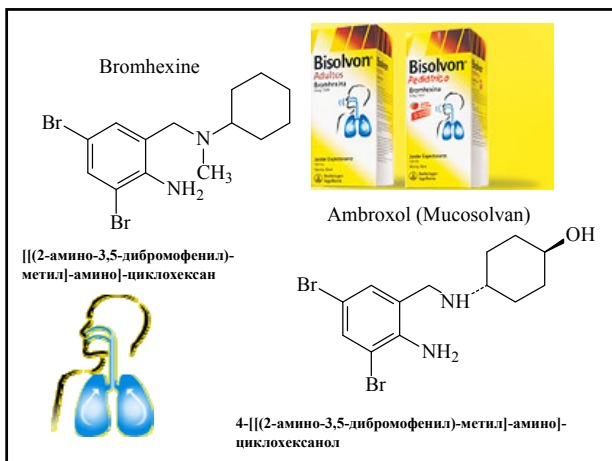
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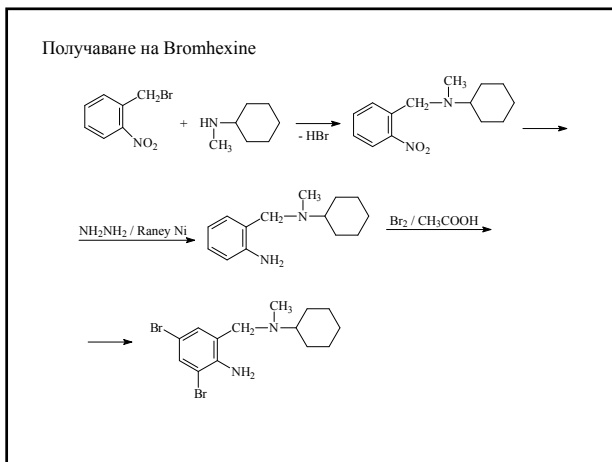
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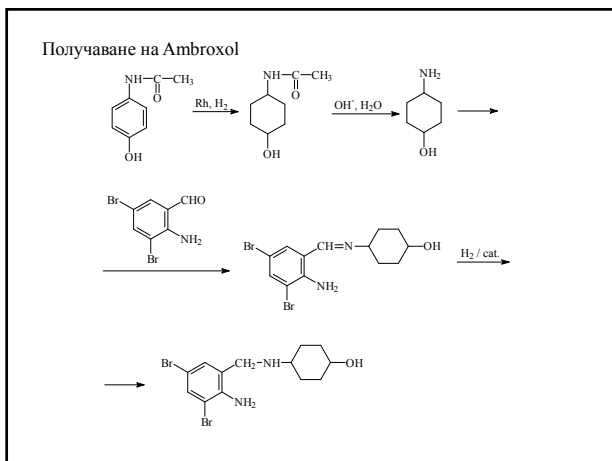
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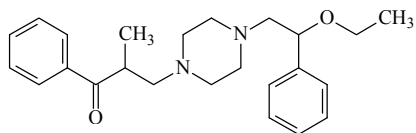
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Eprazinone (Mukolen)



3-[4-(2-етокси-2-фенилетил)-1-пиперазинил]-2-метил-1-фенил-1-пропанон

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**АНТИЕМЕТИЧНИ ЛЕКАРСТВЕНИ ПРОДУКТИ**

1. Антагонисти на  $D_2$  – рецепторите.
  - 1.1. Фенотиазинови производни
  - 1.2. Бензимидазолови производни
  - 1.3. Бензамиди
  
2. Антагонисти на 5-НТ<sub>3</sub> – рецепторите.
  - 2.1. Индолови производни
  - 2.2. Бензопиразолови производни

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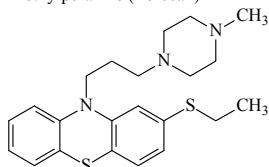
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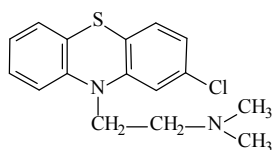
**Антагонисти на  $D_2$  – рецепторите.**

**Фенотиазинови производни**

Thiethylperazine (Torecan)



Chlorphenethazine (Marophen)



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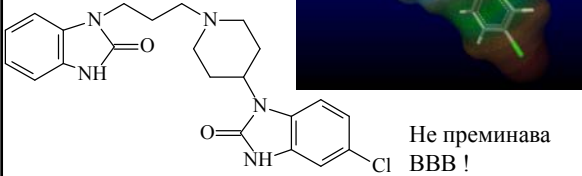
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Бензимидазолови производни

Domperidone (Motilium)



Не преминава  
ВВВ !

5-хлоро-1-[1-[3-(2,3-дихидро-2-оксо-1H-бензимидазол-1-ил)-пропил]-4-пиперидинил]-1,3-дихидро-2H-бензимидазол-2-он

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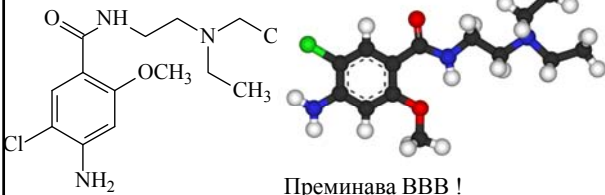
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Бензамиди

Metoclopramide (Cerucal)



Преминава ВВВ !

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It appears to bind to dopamine  $D_2$  receptors where it is a receptor antagonist, and is also a mixed 5-HT<sub>3</sub> receptor antagonist/5-HT<sub>4</sub> receptor agonist.

The anti-emetic action of metoclopramide is due to its antagonist activity at  $D_2$  receptors in the chemoreceptor trigger zone (CTZ) in the central nervous system (CNS)—this action prevents nausea and vomiting triggered by most stimuli. At higher doses, 5-HT<sub>3</sub> antagonist activity may also contribute to the anti-emetic effect.

The prokinetic activity of metoclopramide is mediated by muscarinic activity,  $D_2$  receptor antagonist activity and 5-HT<sub>4</sub> receptor agonist activity. The prokinetic effect itself may also contribute to the anti-emetic effect.

Metoclopramide increases peristalsis of the jejunum and duodenum, increases tone and amplitude of gastric contractions, and relaxes the pyloric sphincter and duodenal bulb.

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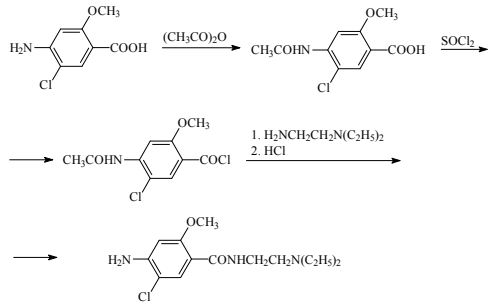
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### Получаване на Metoclopramide



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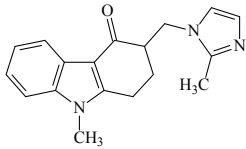
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### Антагонисти на 5-HT<sub>3</sub> – рецепторите

Ondansetron (Zofran)



The 5-HT<sub>3</sub> receptor antagonists are the primary drugs used to treat and prevent chemotherapy-induced nausea and vomiting (CINV). Many times they are given intravenously about 30 minutes before beginning therapy. Ondansetron is also effective in controlling post-operative nausea and vomiting (PONV) and post-radiation nausea and vomiting, and is a possible therapy for nausea and vomiting due to acute or chronic medical illness or acute gastroenteritis.

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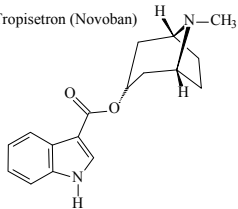
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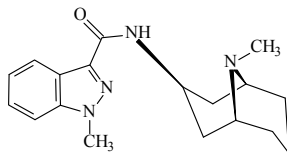
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Tropisetron (Novoban)



Granisetron (Kytiril)



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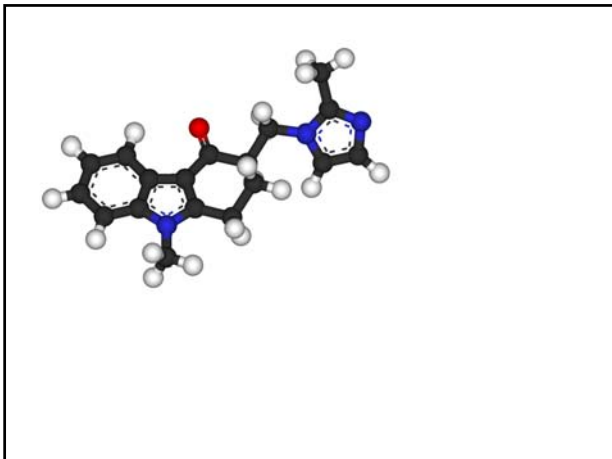
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**ОЧИСТИТЕЛНИ (ЛАКСАТИВНИ) И АНТИДИАРИЧНИ  
ЛЕКАРСТВЕНИ ПРОДУКТИ**

1. Осмотични очистителни
2. Стимулиращи очистителни
  - 2.1. Дифенилметанови производни
  - 2.2. Антрахинонови производни
  - 2.3. Повърхностно действащи
3. Други

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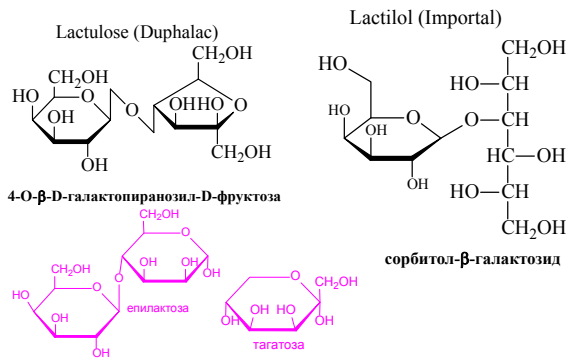
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**Осмотични очистителни**




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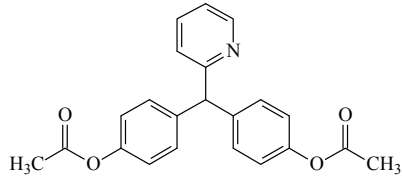
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**Стимулиращи очистителни**

**Дифенилметанови производни**

Bisacodyle (Bisalax)



4,4'-(2-пиридилметил)бисфенолдиацетат (бис(р-ацетоксифенил)-2-пиридилметан)

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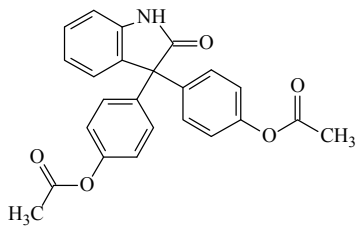
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**Охуфенисатин ацетат (Isaphen)**



3,3-бис[4-(ацетилокси)фенил]-1,3-дихидро-2Н-индол-2-он

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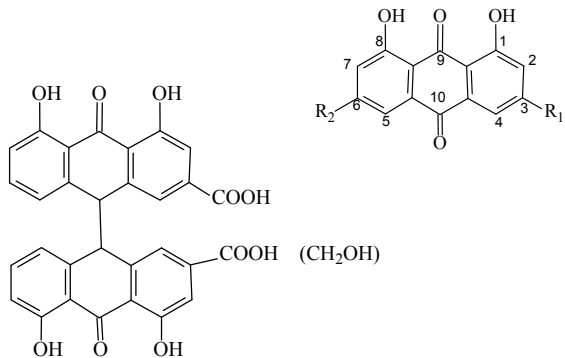
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**Антрахинонови производни**



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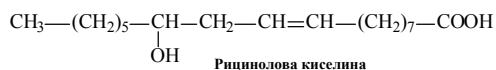
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### Повърхностно действащи

Ricin oil, Castor oil – Рициново масло

Триглицериди на мастни киселини, сред които:

рицинова – 87%,  
олеинова – 7%,  
линоленова – 3%,  
стеаринова – 1%  
следи от дихидростеаринова.



Рицинова киселина

Други лаксативни продукти

Oleum Vaselini

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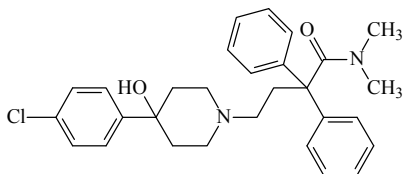
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### АНТИДИАРИЧНИ ЛЕКАРСТВЕНИ ПРОДУКТИ

Loperamide hydrochloride (Imodium)



4-(4-хлорофенил)-4-хидрокси- N,N- диметил-  $\alpha,\alpha$ -дифенил-1-пиперидин бутанамид

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### АНТИХЕЛМИНТНИ ЛЕКАРСТВЕНИ ПРОДУКТИ

#### ХЕЛМИНТИ:

- Род Цестода – плоски (лентовидни) червеи.  
\* тении, ехинокок и др.
- Род Трематода – смукалници.  
\* плоските червеи - чернодробен метил, шистозоми.
- Род Нематода – кръгли червеи.  
\* аскари, оксиури, анкилостоми и др.

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Лекарствени продукти, използвани при чревни нематодози

**I. Пиреразин и производни**

Piperazine adipinate



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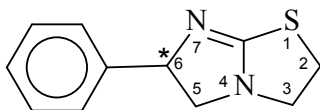
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**II. Имидазотиазолови производни**

Levamisole (Decaris)



6-фенил-2,3,5,6-тетрахидроимидазо[2,1-б]-1,3-тиазол

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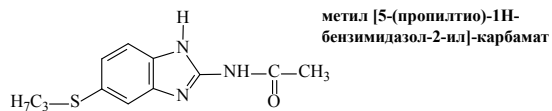
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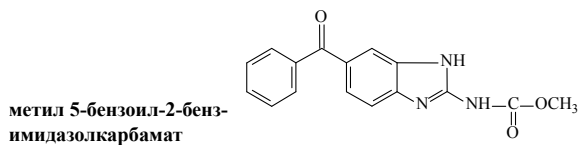
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**III. Бензимидазолови производни**

Albendazole



Mebendazol (Vermox)



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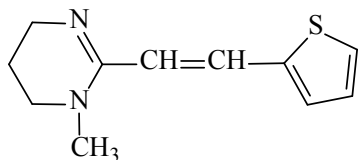
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**IV. Тетрахидропиримидинови производни**

**Pyrantel (Combantrin)**



1,4,5,6-тетраhydro-1-метил-[*транс*-2-(2-тиенил)-винил]-пиримидин

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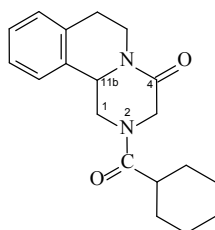
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**V. Isoхинолинови производни**

**Praziquantel**



2-циклохексилкарбонил-1,2,3,6,7,11b-хексаhydro-пиразино[2,1-а]изохинолин-4-он

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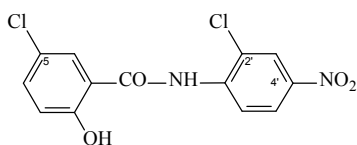
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**Лекарствени продукти, използвани при чревни цестодози**

**Niclosamide (Radeverm)**



5,2'-дихлоро-4'-нитросалициланилид

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**АНТИМАЛАРИЙНИ ЛЕКАРСТВЕНИ ПРОДУКТИ**

**1. Шизонтогропни**

**2. Гаметотропни**

**1. Хинолинови производни**

**2. Диаминопиридинови производни**

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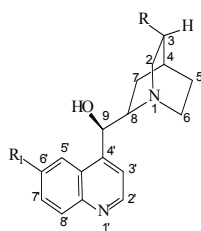
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**I. ХИНОЛИНОВИ ПРОИЗВОДНИ**



3R: 4S

R<sub>1</sub> = OCH<sub>3</sub>; R = CH=CH<sub>2</sub> (-) 8S: 9R - хиинин  
R<sub>1</sub> = OCH<sub>3</sub>; R = CH=CH<sub>2</sub> (-) 8R: 9S - хиинидин

R<sub>1</sub> = H; R = CH=CH<sub>2</sub> (+) 8R: 9S - цинхонин  
R<sub>1</sub> = H; R = CH=CH<sub>2</sub> (-) 8S: 9R - цинхонидин

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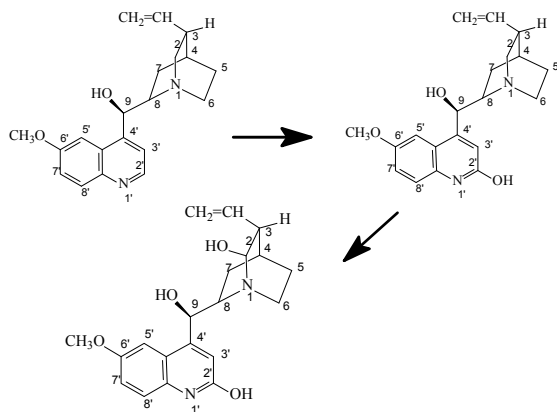
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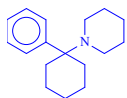
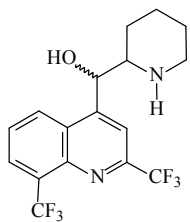
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### Mefloquine



**α-(2-пиперидинил)-2,8-бис(трифлуорометил)-4-хинолинметанол**

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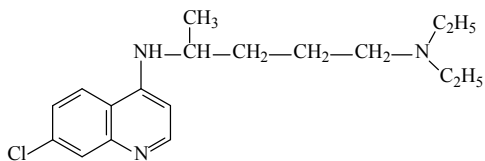
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### Ia. 4-Аминохинолинови производни

#### Chloroquine



**7-хлоро-4-(4-диетиламино-1-метилбутиламино)-хинолин**

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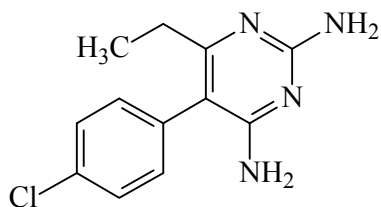
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### II. Диаминопиридини

**Pyrimethamine (Daraprim, Tindurin)**



**5-(4-хлорофенил)-6-етил-2,4-диаминопиримидин**

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