

## **Notezine - General Information:**

An anthelmintic used primarily as the citrate in the treatment of filariasis, particularly infestations with *Wucheria bancrofti* or *Loa loa*. [PubChem]

## **Pharmacology:**

Notezine is an anthelmintic drug that does not resemble other antiparasitic compounds. It is a synthetic organic compound which is highly specific for several parasites and does not contain any toxic metallic elements. Notezine continues to be the mainstay for treatment of patients with lymphatic filariasis and loiasis.

## **Additional information about Notezine**

**Notezine Indication:** Used for the treatment of individual patients with certain filarial diseases including tropical pulmonary eosinophilia, loiasis, and lymphatic filariasis caused by infection with *Wuchereria bancrofti*, *Brugia malayi*, or *Brugia timori*.

**Mechanism Of Action:** The mechanism of action of diethylcarbamazine is thought to involve sensitizing the microfilariae to phagocytosis. One study showed that diethylcarbamazine's activity against *Brugia malayi* microfilariae is dependent on inducible nitric-oxide synthase and the cyclooxygenase pathway. It confirmed the important role of the arachidonic acid metabolic pathway in diethylcarbamazine's mechanism of action *in vivo* and shows that in addition to its effects on the 5-lipoxygenase pathway, it targets the cyclooxygenase pathway and COX-1.

**Drug Interactions:** Not Available

**Food Interactions:** Not Available

**Generic Name:** Diethylcarbamazine

**Synonyms:** Diethyl carbamazine; Ethodryl; Ditrazine base; Carbamazine; Carbilazine

**Drug Category:** Anthelmintics; Filaricides; Lipoxygenase Inhibitors

**Drug Type:** Small Molecule; Approved

**Other Brand Names containing**

**Diethylcarbamazine:** Banocide; Bitirazine; Caracide; Caricide; Cypip; Hetrazan; Notezine; Spat onin; Decacide;

**Absorption:** Readily absorbed following oral administration.

**Toxicity (Overdose):** Oral LD<sub>50</sub> in rat and mouse is 1400 mg/kg and 660 mg/kg, respectively.

**Protein Binding:** Not Available

**Biotransformation:** Partially metabolized to diethylcarbamazine N-oxide.

**Half Life:** Approximately 8 hours.

**Dosage Forms of Notezine:** Not Available

**Chemical IUPAC Name:** N,N-diethyl-4-methylpiperazine-1-carboxamide

**Chemical Formula:** C<sub>10</sub>H<sub>21</sub>N<sub>3</sub>O

**Diethylcarbamazine on Wikipedia:** <http://en.wikipedia.org/wiki/Diethylcarbamazine>

**Organisms Affected:** Humans and other mammals; Parasitic nematodes and other roundworms