



LKT Laboratories, Inc.

## Clotrimazole

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### Product Information

Product ID C4657

CAS No. 23593-75-1

Chemical Name 1-[(2-Chlorophenyl)-diphenylmethyl]-1H-imidazole

Synonym Canesten, Canifug, Lotrimin, Mycosporin, Rimazole, Trimysten

Formula  $C_{22}H_{17}ClN_2$

Formula Wt. 344.84

Melting Point 147-149 °C

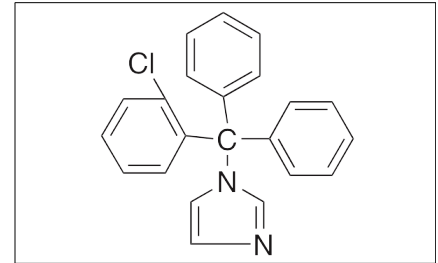
Purity  $\geq 97\%$

Solubility Soluble in acetone; chloroform; ethyl acetate and DMF. Slightly soluble in water, benzene and toluene.

Store Temp Ambient

Ship Temp Ambient

Description Clotrimazole is an imidazole antifungal that also exhibits anti-parasitic, antimalarial, and anticancer chemotherapeutic activities. Clotrimazole inhibits synthesis of ergosterol and other sterols, preventing fungal cell wall formation; it also inhibits the H<sup>+</sup>/K<sup>+</sup> ATPase and the Na<sup>+</sup>/K<sup>+</sup> ATPase. In vivo and in vitro, clotrimazole induces G<sub>0</sub>/G<sub>1</sub> cell cycle arrest, decreases the Bcl-2:Bax ratio, stimulates apoptosis, and inhibits proliferation and tumor growth. Additionally, this compound inhibits degradation of heme, inducing hemolysis and suppressing growth of *Plasmodium* in vitro.



**Bulk quantities available upon request**

| Product ID | Size |
|------------|------|
| C4657      | 5 g  |
| C4657      | 10 g |
| C4657      | 25 g |

References Wang J, Jia L, Kuang Z, et al. The in vitro and in vivo antitumor effects of clotrimazole on oral squamous cell carcinoma. *PLoS One*. 2014 Jun 3;9(6):e98885. PMID: 24892421.

Witzke A, Lindner K, Munson K, et al. Inhibition of the gastric H,K-ATPase by clotrimazole. *Biochemistry*. 2010 Jun 1;49(21):4524-32. PMID: 20423050.

Huy NT, Takano R, Hara S, et al. Enhancement of heme-induced membrane damage by the anti-malarial clotrimazole: the role of colloid-osmotic forces. *Biol Pharm Bull*. 2004 Mar;27(3):361-5. PMID: 14993803.

Plempel M. On the action kinetics of clotrimazole. *Chemotherapy*. 1982;28 Suppl 1:22-31. PMID: 6761084.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.