



# SZABO SCANDIC

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## Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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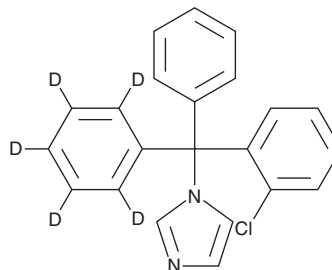
# PRODUCT INFORMATION



## Clotrimazole-d<sub>5</sub>

Item No. 30717

**CAS Registry No.:** 1185076-41-8  
**Formal Name:** 1-((2-chlorophenyl)(phenyl)(phenyl-d<sub>5</sub>)methyl)-1H-imidazole  
**MF:** C<sub>22</sub>H<sub>12</sub>ClD<sub>5</sub>N<sub>2</sub>  
**FW:** 349.9  
**Chemical Purity:** ≥95% (Clotrimazole)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Clotrimazole-d<sub>5</sub> is intended for use as an internal standard for the quantification of clotrimazole (Item No. 15278) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Clotrimazole-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the clotrimazole-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Clotrimazole-d<sub>5</sub> is slightly soluble in chloroform and methanol.

### Description

Clotrimazole is an imidazole antifungal agent.<sup>1</sup> It is active against a variety of fungi, including *C. albicans*, *A. fumigatus*, *S. cerevisiae*, *C. neoformans*, *T. mentagrophytes*, and *M. canis* (MICs = <0.05-3.13 μg/ml).<sup>2</sup> It inhibits the voltage-gated potassium channel K<sub>v</sub>1.3 and the intermediate conductance calcium-activated potassium channel (IKCa<sub>1</sub>/KCa<sub>3.1</sub>; IC<sub>50</sub>s = 6 and 0.07 μM, respectively) and decreases proliferation of HaCaT keratinocytes (EC<sub>50</sub> = 15 μM).<sup>3</sup> Topical application of clotrimazole (1%) reduces oxazolone-induced ear swelling in an oxazolone-sensitized mouse model of delayed-type hypersensitivity. Clotrimazole (10 μM) also inhibits proliferation of A549 lung, HT-29 colon, and MM-RU melanoma cancer cells.<sup>4</sup> Formulations containing clotrimazole have been used in the treatment of fungal skin infections.

### References

1. Burgess, M.A. and Bodey, G.P. Clotrimazole (Bay b 5097): In vitro and clinical pharmacological studies. *Antimicrob. Agents Chemother.* **2(6)**, 423-426 (1972).
2. Shadomy, S. In vitro antifungal activity of clotrimazole (Bay b 5097). *Infect. Immun.* **4(2)**, 143-148 (1971).
3. Pegoraro, S., Lang, M., Dreker, T., et al. Inhibitors of potassium channels K<sub>v</sub>1.3 and IK-1 as immunosuppressants. *Bioorg. Med. Chem. Lett.* **19(8)**, 2299-2304 (2009).
4. Benzaquen, L.R., Brugnara, C., Byers, H.R., et al. Clotrimazole inhibits cell proliferation *in vitro* and *in vivo*. *Nat. Med.* **1(6)**, 534-540 (1995).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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