

# APPLICATIONS

## Chiral Separation of Hydroxyzine with a Lux<sup>®</sup> i-Amylose-3 Chiral Stationary Phase by HPLC under General Normal Phase Mobile Phase Conditions

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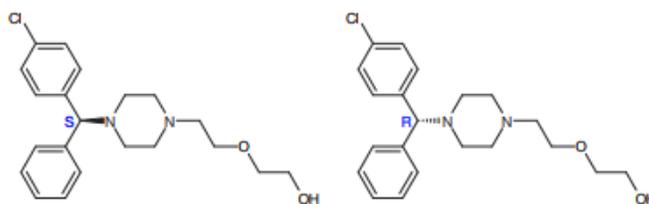
### Overview

In this application note, a general chiral screening mobile phase conditions was used in conjunction with the Lux i-Amylose-3 immobilized polysaccharide-based chiral stationary phase, to separate a racemic mixture of Hydroxyzine. Hydroxyzine is classified as a diphenylmethylpiperazine class of antihistamines. Because of its therapeutic use, there is interest in the development of an efficient and fast HPLC method that is able to enantiomerically resolve the compound. A general screening normal phase mobile phase convention of Hexane/Isopropanol (80:20) with 0.1 % Diethylamine added was used. An Agilent<sup>®</sup> 1100 (Santa Clara, CA) HPLC system, with an injection volume of 10  $\mu$ L and a flow rate of 1.0 mL/min was used for this example. The Lux i-Amylose-3 chiral selector is a complementary but distinct chiral selectivity in comparison to i-Amylose-1 and i-Cellulose-5. It combines the 5-position methyl group of the i-Amylose-3 chiral selector with electron-withdrawing potential of the i-Cellulose-5 3-position chlorine group. Combined with the strong solvent flexibility of the immobilization process the Lux i-Amylose-3 column's broad enantioselectivity promotes greater chiral separation success.

### LC Conditions

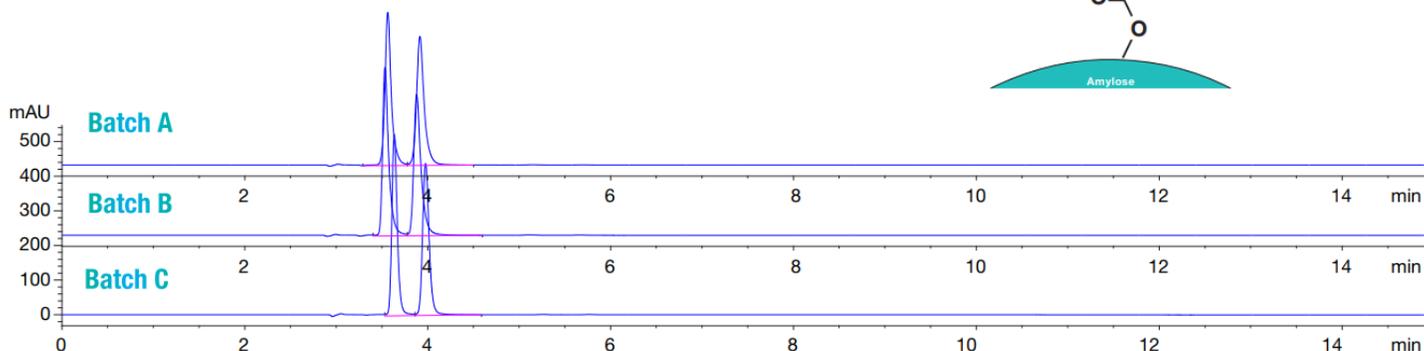
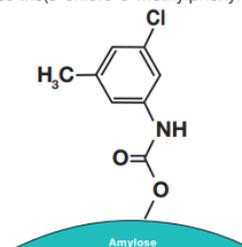
**Column:** Lux 5  $\mu$ m i-Amylose-3  
**Dimensions:** 250 x 4.6 mm  
**Part No.:** 00G-4779-E0  
**Recommended Guard:** SecurityGuard<sup>™</sup>  
**Guard Holder Part No.:** KJ0-4282  
**Guard Cartridge Part No.:** AJ0-8650  
**Mobile Phase:** Hexane/Isopropanol with 0.1 % Diethylamine (80:20)  
**Flow Rate:** 1.0 mL/min  
**Injection Volume:** 10  $\mu$ L (2 mg/mL)  
**Detector:** UV-Vis @ 220 nm  
**Sample:** 1. Hydroxyzine  
 2. Hydroxyzine

### Enantiomers of Hydroxyzine



### Lux i-Amylose-3

Amylose tris(3-chloro-5-methylphenylcarbamate)



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CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

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