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## Product Data Sheet

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Product Name: Norverapamil D7 hydrochloride

Cat. No.: GC63118

### Chemical Properties

Cas. No. 1216413-74-9

Formula  $C_{26}H_{30}D_7ClN_2O_4$

M.Wt 484.08

Solubility  $H_2O$  : 15 mg/mL (30.99 mM; Need ultrasonic and warming) Storage

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Norverapamil D7 ((±)-Norverapamil D7) hydrochloride is a deuterium labeled Norverapamil. Norverapamil ((±)-Norverapamil), an N-demethylated metabolite of Verapamil, is a L-type calcium channel blocker and a P-glycoprotein (P-gp) function inhibitor[1][2].

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process[3].

[1]. Adams KN, et al. Verapamil, and its metabolite norverapamil, inhibit macrophage-induced, bacterial efflux pump-mediated tolerance to multiple anti-tubercular drugs. J Infect Dis. 2014 Aug 1;210(3):456-66.

[2]. Pauli-Magnus C, et al. Characterization of the major metabolites of verapamil as substrates and inhibitors of P-glycoprotein. J Pharmacol Exp Ther. 2000 May;293(2):376-82.

[3]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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