

Product Data Sheet

Product Name: Vildagliptin-d3

Cat. No.: GF00260

Chemical Properties

Cas. No. 1217546-82-1

Formula C₁₇H₂₅N₃O₂

M.Wt 306.42

Solubility

Storage 2-8°C, sealed storage, away from moisture

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



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

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Background

Vildagliptin-d3 is the deuterium labeled Vildagliptin. Vildagliptin (LAF237) is a potent, stable, selective dipeptidyl peptidase IV (DPP-IV) inhibitor with an IC₅₀ of 3.5 nM in human Caco-2 cells. Vildagliptin possesses excellent oral bioavailability and potent antihyperglycemic activity[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. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

[2]. Villhauer EB, et al. 1-[[3-hydroxy-1-adamantyl)amino]acetyl]-2-cyano-(S)-pyrrolidine: a potent, selective, and orally bioavailable dipeptidyl peptidase IV inhibitor with antihyperglycemic properties. *J Med Chem*. 2003 Jun 19;46(13):2774-89.

[3]. Wu YJ, et al. Dipeptidyl peptidase-4 inhibitor, vildagliptin, inhibits pancreatic beta cell apoptosis in association with its effects suppressing endoplasmic reticulum stress in db/db mice. *Metabolism*. 2015 Feb;64(2):226-35.

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