



LKT Laboratories, Inc.

## Vildagliptin

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### Product Information

Product ID V3345

CAS No. 274901-16-5

#### Chemical Name

**Synonym** (2S)-(((3-Hydroxyadamantan-1-yl)amino)acetyl)pyrrolidine-2-carbonitrile, Galvus, (2R)-1-(2-(((3-Hydroxy-1-adamantyl)amino)acetyl)pyrrolidine-2-carbonitrile, 1-(2-(((3-Hydroxy-1-adamantyl)amino)

**Formula** C<sub>17</sub>H<sub>25</sub>N<sub>3</sub>O<sub>2</sub>

**Formula Wt.** 303.40

**Melting Point** 148-152 °C

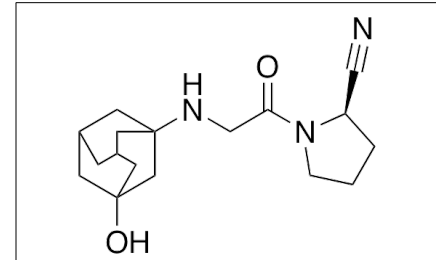
**Purity** ≥97%

**Solubility**

**Store Temp** -20 °C

**Ship Temp** Ambient

**Description** Vildagliptin is an inhibitor of dipeptidyl peptidase IV (DPP4) that increases levels of glucagon-like peptide 1 (GLP-1). Vildagliptin's inhibition of DPP4 results in anti-diabetic and anti-hyperglycemic benefits, including increases in serum insulin and B-cell mass, decreases in serum glucagon, restoration of insulin/IGF1 signaling, and improved endoplasmic reticular stress in animal models. Additionally, this compound displays neuroprotective and cognition enhancing activities, attenuating amyloid-β (Aβ) pathology, tau phosphorylation, and release of inflammatory markers as well as improving memory retention in animal models; this indicates potential benefit as a treatment for Alzheimer's disease with further investigation.



### Pricing and Availability

*Bulk quantities available upon request*

Product ID	Size	List Price
V3345	10 mg	\$61.60
V3345	25 mg	\$123.00
V3345	100 mg	\$307.80

**References** Kosaraju J, Murthy V, Khatwal RB, et al. Vildagliptin: an anti-diabetes agent ameliorates cognitive deficits and pathology observed in streptozotocin-induced Alzheimer's disease. *J Pharm Pharmacol.* 2013 Dec;65(12):1773-84. PMID: 24117480.

Shimizu S, Hosooka T, Matsuda T, et al. DPP4 inhibitor vildagliptin preserves B-cell mass through amelioration of endoplasmic reticulum stress in C/EBPβ transgenic mice. *J Mol Endocrinol.* 2012 Aug 30;49(2):125-35. PMID: 22822047.

Thornberry NA, Gallwitz B. Mechanism of action of inhibitors of dipeptidyl-peptidase-4 (DPP-4). *Best Pract Res Clin Endocrinol Metab.* 2009 Aug;23(4):479-86. PMID: 19748065.

Balas B, Baig MR, Watson C, et al. The dipeptidyl peptidase IV inhibitor vildagliptin suppresses endogenous glucose production and enhances islet function after single-dose administration in type 2 diabetic patients. *J Clin Endocrinol Metab.* 2007 Apr;92(4):1249-55. PMID: 17244786.

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