



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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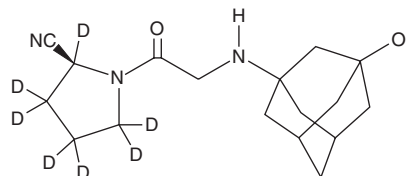
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# PRODUCT INFORMATION



## Vildagliptin-d<sub>7</sub> Item No. 22373

**CAS Registry No.:** 1133208-42-0  
**Formal Name:** (2S)-1-[2-[(3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl)amino]acetyl]-2-pyrrolidine-2,3,3,4,4,5,5-d<sub>7</sub>-carbonitrile acid  
**MF:** C<sub>17</sub>H<sub>18</sub>D<sub>7</sub>N<sub>3</sub>O<sub>2</sub>  
**FW:** 310.4  
**Chemical Purity:** ≥98% (Vildagliptin)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</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

Vildagliptin-d<sub>7</sub> is intended for use as an internal standard for the quantification of vildagliptin (Item No. 14705) 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).

Vildagliptin-d<sub>7</sub> is supplied as a solid. A stock solution may be made by dissolving the vildagliptin-d<sub>7</sub> in the solvent of choice. Vildagliptin-d<sub>7</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of vildagliptin-d<sub>7</sub> in ethanol and DMSO is approximately 15 mg/ml and approximately 20 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of vildagliptin-d<sub>7</sub> can be prepared by directly dissolving the solid in aqueous buffers. The solubility of vildagliptin-d<sub>7</sub> in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Vildagliptin is an inhibitor of dipeptidyl peptidase 4 (DPP-4; K<sub>i</sub> = 0.003 μM).<sup>1</sup> It is selective for DPP-4 over DPP-2, DPP-8, and DPP-9 (K<sub>s</sub> = >500, 0.81, and 0.095 μM, respectively). Vildagliptin (3 mg/kg) decreases plasma glucose levels and increases plasma insulin levels during an oral glucose challenge in Zucker *fa/fa* rats.<sup>2</sup> It prevents increases in liver triglyceride and thiobarbituric acid reactive substance (TBARS) levels in a mouse model of non-alcoholic fatty liver disease (NAFLD) induced by a high-cholesterol diet.<sup>3</sup> Formulations containing vildagliptin have been used in the treatment of type 2 diabetes.

### References

- Ikuma, Y., Hochigai, H., Kimura, H., *et al.* *Bioorg. Med. Chem.* **20**(19), 5864-5883 (2012).
- Burkey, B.F., Li, X., Bolognese, L., *et al.* *J. Pharm. Exper. Ther.* **315**(2), 688-695 (2005).
- Kamal, S.M. *Int. J. Med. Nano Res.* **1**(1), 1-5 (2014).

#### 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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