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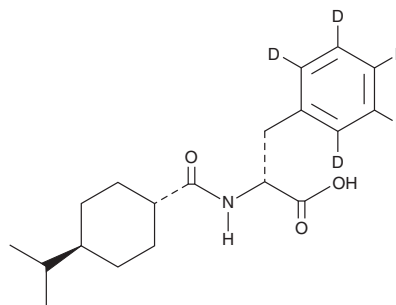
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PRODUCT INFORMATION



Nateglinide-d₅ Item No. 30151

CAS Registry No.: 1227666-13-8
Formal Name: N-[[*trans*-4-(1-methylethyl)cyclohexyl]carbonyl]-D-phenylalanine-2,3,4,5,6-d₅
MF: C₁₉H₂₂D₅NO₃
FW: 322.5
Chemical Purity: ≥95% (Nateglinide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
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

Nateglinide-d₅ is intended for use as an internal standard for the quantification of nateglinide (Item No. 23320) 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).

Nateglinide-d₅ is supplied as a solid. A stock solution may be made by dissolving the nateglinide-d₅ in the solvent of choice, which should be purged with an inert gas. Nateglinide-d₅ is slightly soluble in chloroform and methanol.

Description

Nateglinide is a hypoglycemic agent.¹⁻³ It induces insulin and somatostatin release from perfused rat pancreas when used at concentrations ranging from 0.03 to 3 μM.¹ Nateglinide (3 μM) increases intracellular calcium levels in isolated rat pancreatic β cells, an effect that can be inhibited by the L-type calcium channel blocker nitrendipine (Item No. 17549). Nateglinide-induced secretion of insulin and somatostatin and calcium influx is also reversed by the potassium channel activator diazoxide (Item No. 14576). Oral administration of nateglinide (1.6 mg/kg) reduces blood glucose levels by 20% in fasted mice.² It also decreases blood glucose levels in an oral glucose tolerance test in normal rats, genetically diabetic KK mice, and a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104).³ Formulations containing nateglinide have been used in the treatment of type 2 diabetes.

References

1. Fujitani, S., Ikenoue, T., Akiyoshi, M., *et al.* Somatostatin and insulin secretion due to common mechanisms by a new hypoglycemic agent, A-4166, in perfused rat pancreas. *Metabolism* **45(2)**, 184-189 (1996).
2. Shinkai, H., Toi, K., Kumashiro, I., *et al.* N-acylphenylalanines and related compounds. A new class of oral hypoglycemic agents. *J. Med. Chem.* **31(11)**, 2092-2097 (1988).
3. Sato, Y., Nishikawa, M., Shinkai, H., *et al.* Possibility of ideal blood glucose control by a new oral hypoglycemic agent, N-[[*trans*-4-isopropylcyclohexyl]-carbonyl]-D-phenylalanine (A-4166), and its stimulatory effect on insulin secretion in animals. *Diabetes Res. Clin. Pract.* **12(1)**, 53-59 (1991).

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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