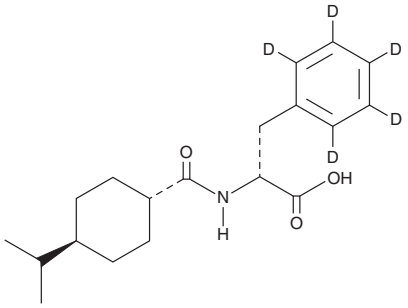
PRODUCT INFORMATION

Nateglinide-d_5

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-d_5
MF:	$C_{19}H_{22}D_5NO_3$
FW:	322.5
Chemical Purity:	≥95% (Nateglinide)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nateglinide-d_5 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-d_5 is supplied as a solid. A stock solution may be made by dissolving the nateglinide-d_5 in the solvent of choice, which should be purged with an inert gas. Nateglinide-d_5 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM