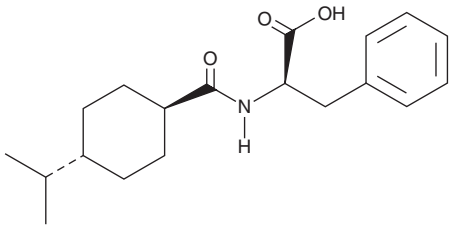
PRODUCT INFORMATION

Nateglinide

Item No. 23320

CAS Registry No.:	105816-04-4
Formal Name:	N-[[*trans*-4-(1-methylethyl)cyclohexyl] carbonyl]-D-phenylalanine
Synonyms:	A-4166, SDZ-DJN 608
MF:	$C_{19}H_{27}NO_3$
FW:	317.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 207 nm
Supplied as:	A crystalline 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 is supplied as a crystalline solid. A stock solution may be made by dissolving the nateglinide in the solvent of choice. Nateglinide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of nateglinide in these solvents is approximately 30 mg/ml.

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