

Product Data Sheet

Product Name: Nateglinide-d5

Cat. No.: GC47751

Chemical Properties

Cas. No. 1227666-13-8

SMILES CC(C)[C@H]1CC[C@H](C(N[C@H](CC2=C([2H])C([2H])=C([2H])C([2H])=C2[2H])C(O)=O)=O)CC1

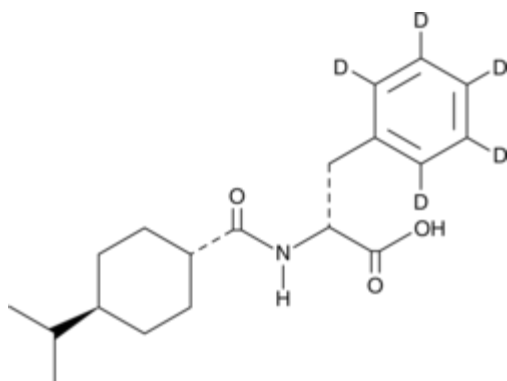
Formula C₁₉H₂₂D₅NO₃ M.Wt 322.5

Solubility DMSO : 100 mg/mL (310.13 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Nateglinide-d₅ is intended for use as an internal standard for the quantification of nateglinide by GC- or LC-MS. Nateglinide is a hypoglycemic agent.^{1,2,3} 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 . Nateglinide-induced secretion of insulin and somatostatin and calcium influx is also reversed by the potassium channel activator diazoxide . Oral

Caution: Product has not been fully validated for medical applications. For research use only.

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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.³ Formulations containing nateglinide have been used in the treatment of type 2 diabetes.

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)

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