

Product Name: Nateglinide

Catalog No.: 4231

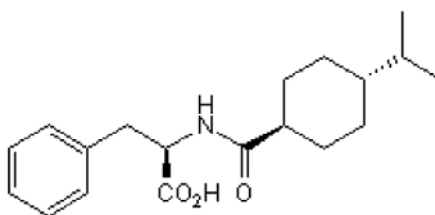
Batch No.: 1

CAS Number: 105816-04-4

IUPAC Name: *N*-[[4-(1-Methylethyl)cyclohexyl]carbonyl]-D-phenylalanine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₇NO₃
Batch Molecular Weight: 317.42
Physical Appearance: White solid
Solubility: DMSO to 100 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -10.6 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	71.89	8.57	4.41
Found	71.93	8.62	4.52

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Nateglinide is a K_{ir6} (K_{ATP}) blocker. Exhibits in vitro tissue selectivity for pancreatic β -cell-type K_{ir6} channels over cardiovascular K_{ir6} channels; displays high affinity for SUR1/ $K_{ir6.2}$ channels. Hypoglycemic agent; stimulates insulin secretion from pancreatic β -cells by increasing cytosolic Ca^{2+} concentration. Also agonist at the orphan receptor MRGPRX4.

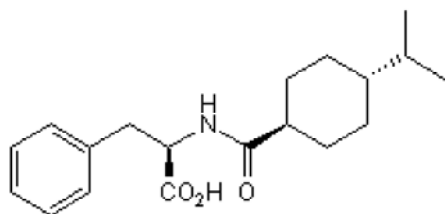
Physical and Chemical Properties:

Batch Molecular Formula: $C_{19}H_{27}NO_3$

Batch Molecular Weight: 317.42

Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kroeze et al (2015) PRESTO-Tango as an open-source resource for interrogation of the druggable human GPCRome. *Nat.Struct.Mol.Biol.* **22** 362. PMID: 25895059.

Chachin et al (2003) Nateglinide, a D-phenylalanine derivative lacking either a sulfonylurea or benzamido moiety, specifically inhibits pancreatic β -cell-type K_{ATP} channels. *J.Pharmacol.Exp.Ther.* **304** 1025. PMID: 12604678.

Hu et al (1999) Tissue selectivity of antidiabetic agent nateglinide: study on cardiovascular and β -cell K_{ATP} channels. *J.Pharmacol.Exp.Ther.* **291** 1372. PMID: 10565863.

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