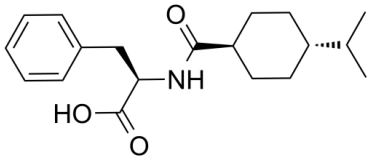
Data Sheet

Product Name:	Nateglinide
Cat. No.:	CS-2528
CAS No.:	105816-04-4
Molecular Formula:	C19H27NO3
Molecular Weight:	317.42
Target:	Dipeptidyl Peptidase; Potassium Channel
Pathway:	Membrane Transporter/Ion Channel; Metabolic Enzyme/Protease
Solubility:	DMSO : 100 mg/mL (315.04 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Nateglinide, a D-phenylalanine derivative, is an orally active and short-acting insulinotropic agent and a **DPP IV** inhibitor. Nateglinide inhibits ATP-sensitive K^+ channels in pancreatic β-cells. Nateglinide is used for the treatment of type 2 (non-insulin-dependent) diabetes mellitus[1].[2]. **In Vitro:** Nateglinide inhibits typical recordings of dinitrophenol-induced K_{ATP} currents in a concentration-dependent manner. Nateglinide exhibits IC_{50} values of 7.4 μM and 2.4 μM for 5 mM glucose (G5) and 16 mM (G16) glucose, respectively[2]. **In Vivo:** Nateglinide (0.3 mg/kg, orally in mice) stimulates human C-peptide secretion in the humanized mice and improved postprandial glucose concentrations[3]

References:

[1]. Christopher J. Dunn, et al. Nateglinide. OFILE Drugs 2000 Sep: 60 (3): 6.

[2]. Shiling Hu, et al. Interaction of nateglinide with KATP channel in h-cells underlies its unique insulinotropic action. European Journal of Pharmacology. 442 (2002) 163-171.

[3]. Jian Luo, et al. Evaluating insulin secretagogues in a humanized mouse model with functional human islets. Metabolism. 2013 Jan;62(1):90-9.

[4]. Duffy NA, et al. Effects of antidiabetic drugs on dipeptidyl peptidase IV activity: nateglinide is an inhibitor of DPP IV and augments the antidiabetic activity of glucagon-like peptide-1. Eur J Pharmacol. 2007 Jul 30;568(1-3):278-86.

CAIndexNames:

D-Phenylalanine, N-[[trans-4-(1-methylethyl)cyclohexyl]carbonyl]-

SMILES:

O=C(O)[C@@H](CC1=CC=CC=C1)NC([C@H]2CC[C@H](C(C)C)CC2)=O

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