

**Product Name:** (Z)-Pugnac

**Catalog No.:** 3384

**Batch No.:** 9

CAS Number: 132489-69-1

IUPAC Name: O-(2-Acetamido-2-deoxy-D-glucofuranosylidene)amino-Z-N-phenylcarbamate

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>15</sub>H<sub>19</sub>N<sub>3</sub>O<sub>7</sub>·1½H<sub>2</sub>O

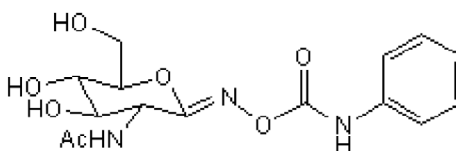
**Batch Molecular Weight:** 380.35

**Physical Appearance:** Off White solid

**Solubility:** DMSO to 100 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.6% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = +61.8 (Concentration = 0.2, Solvent = Methanol)

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	47.37	5.83	11.05
Found	46.94	5.71	11.02

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

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**9**

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**Description:**

(Z)-Pugnac is an O-GlcNAc-β-N-acetylglucosaminidase (O-GlcNAcase) and β-hexosaminidase inhibitor (K<sub>i</sub> values are 46 and 36 nM respectively) that increases O-GlcNAc levels ~ 2-fold in HT29 cells. Z-linked isomer is more potent than the E isomer.

**Physical and Chemical Properties:**

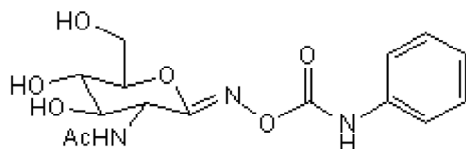
Batch Molecular Formula: C<sub>15</sub>H<sub>19</sub>N<sub>3</sub>O<sub>7</sub>·1½H<sub>2</sub>O

Batch Molecular Weight: 380.35

Physical Appearance: Off White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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:**

**Perreira et al** (2006) Inhibition of O-GlcNAcase by PUGNAc is dependent upon the oxime stereochemistry. *Bioorg.Med.Chem.* **14** 837. PMID: 16214344.

**Macauley et al** (2005) O-GlcNAcase uses substrate-assisted catalysis. *J.Biol.Chem.* **280** 25313. PMID: 15795231.

**Dong and Hart** (1994) Purification and characterization of an O-GlcNAc selective N-acetyl-β-D-glucosaminidase from rat spleen cytosol. *J.Biol.Chem.* **269** 19321. PMID: 8034696.

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