

# Certificate of Analysis

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**Product Name:** Ibudilast

**Catalog No.:** 1694

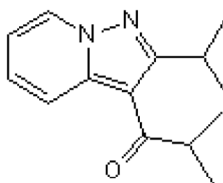
**Batch No.:** 1

**CAS Number:** 50847-11-5

**IUPAC Name:** 2-Methyl-1-[2-(1-methylethyl)pyrazolo[1,5-a]pyridin-3-yl]-1-propanone

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>14</sub>H<sub>18</sub>N<sub>2</sub>O  
**Batch Molecular Weight:** 230.31  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.4 (Ethyl acetate:Petroleum ether [1:1])  
**Melting Point:** At 60°C  
**HPLC:** Shows 99.4% purity  
<sup>1</sup>H NMR: Consistent with structure

**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	73.01	7.88	12.16
Found	73	7.9	12.18

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

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**Description:**

Ibudilast is a phosphodiesterase inhibitor (IC<sub>50</sub> values are 53, 35, 48, 12 and 10 µM for PDE Ia, II, III, IV and V respectively). Also inhibits leukotriene D4 (LTD4) and histamine-induced inositol monophosphate (IP1) formation in guinea pig lung with no direct effect on LTD4 receptors. Inhibits platelet aggregation and is an orally-active cerebral vasodilator, bronchodilator and antiallergic agent.

**Physical and Chemical Properties:**

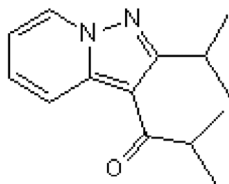
Batch Molecular Formula: C<sub>14</sub>H<sub>18</sub>N<sub>2</sub>O

Batch Molecular Weight: 230.31

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol 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:**

**Kishi *et al*** (2001) Ibudilast: a non-selective PDE inhibitor with multiple actions on blood cells and the vascular wall. *Cardiovasc.Drug Rev.* **19** 215. PMID: 11607039.

**Souness *et al*** (1994) Possible role of cyclic AMP phosphodiesterases in the actions of ibudilast on eosinophil thromboxane generation and airways smooth muscle tone. *Br.J.Pharmacol.* **111** 1081. PMID: 8032594.

**Etoh *et al*** (1990) Inhibition by ibudilast of leukotriene D4-induced formation of inositol phosphates in guinea-pig lung. *Br.J.Pharmacol.* **100** 564. PMID: 2117981.

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