

**Product Name:** BIRB 796

**Catalog No.:** 5989

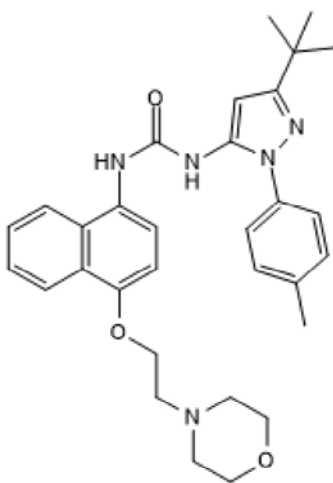
**Batch No.:** 2

CAS Number: 285983-48-4

IUPAC Name: *N*-[3-(1,1-Dimethylethyl)-1-(4-methylphenyl)-1*H*-pyrazol-5-yl]-*N'*-[4-[2-(4-morpholinyl)ethoxy]-1-naphthalenyl]urea

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>31</sub>H<sub>37</sub>N<sub>5</sub>O<sub>3</sub>  
**Batch Molecular Weight:** 527.66  
**Physical Appearance:** Off-white solid  
**Solubility:** DMSO to 10 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	70.56	7.07	13.27
Found	70.21	6.69	13.35

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

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**Description:**

BIRB 796 is a high affinity and selective p38 kinase inhibitor ( $K_d$  = 50-100 pM). Exhibits no significant inhibition on a panel of related kinases. Inhibits LPS-induced TNF $\alpha$  production in human PBMCs and whole blood (IC<sub>50</sub> values are 21 and 960 nM, respectively). Also inhibits JNK2 $\alpha$ 2 and c-Raf-1 (IC<sub>50</sub> values are 98 nM and 1.4  $\mu$ M, respectively). BIRB 796 can be used in protocols for the chemical reprogramming of somatic cells to iPSCs. Cell permeable.

**Physical and Chemical Properties:**

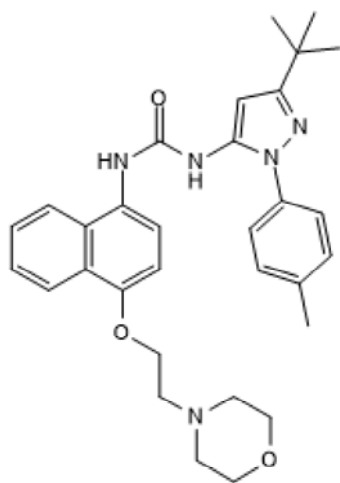
Batch Molecular Formula: C<sub>31</sub>H<sub>37</sub>N<sub>5</sub>O<sub>3</sub>

Batch Molecular Weight: 527.66

Physical Appearance: Off-white solid

**Minimum Purity:**  $\geq$ 98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 10 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:**

**Guan *et al*** (2022) Chemical reprogramming of human somatic cells to pluripotent stem cells. *Nature* **605** 325. PMID: 35418683.

**Goldstein *et al*** (2010) Selective p38 $\alpha$  inhibitors clinically evaluated for the treatment of chronic inflammatory disorders. *J.Med.Chem.* **53** 2345. PMID: 19950901.

**Laufer *et al*** (2008) Design, synthesis, and biological evaluation of novel Tri- and tetrasubstituted imidazoles as highly potent and specific ATP-mimetic inhibitors of p38 MAP kinase: focus on optimized interactions with the enzyme's surface-exposed front region. *J.Med.Chem.* **51** 4122. PMID: 18578517.

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