

Product Name: BIRB 796

Catalog No.: 5989

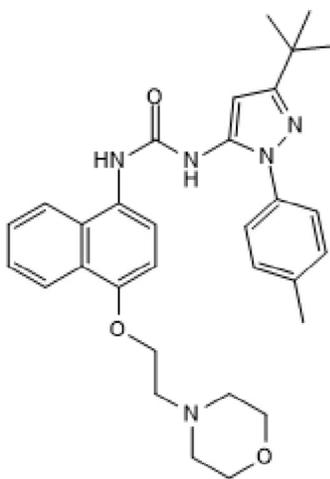
Batch No.: 3

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: C₃₁H₃₇N₅O₃
Batch Molecular Weight: 527.66
Physical Appearance: White solid
Solubility: DMSO to 10 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	70.56	7.07	13.27
Found	70.66	7.06	13.23

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 ($K_d = 50\text{-}100\ \mu\text{M}$). Exhibits no significant inhibition on a panel of related kinases. Inhibits LPS-induced TNF α production in human PBMCs and whole blood (IC_{50} values are 21 and 960 nM, respectively). Also inhibits JNK2 α 2 and c-Raf-1 (IC_{50} values are 98 nM and 1.4 μM , respectively). BIRB 796 can be used in protocols for the chemical reprogramming of somatic cells to iPSCs. Cell permeable.

Physical and Chemical Properties:

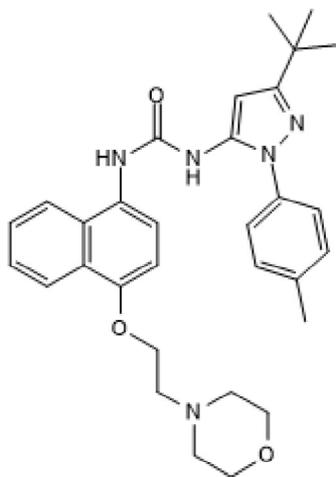
Batch Molecular Formula: C₃₁H₃₇N₅O₃

Batch Molecular Weight: 527.66

Physical Appearance: 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. *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:

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 α 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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