



# **Certificate of Analysis**

www.tocris.com

Product Name: GNE 2861 Catalog No.: 6490 Batch No.: 1

CAS Number: 1394121-05-1

IUPAC Name: 1-[2-[1-(2-Amino-4-pyrimidinyl)-2-[(2-methoxyethyl)amino]-1*H*-benzimidazol-6-yl]ethynyl]cyclohexanol

### 1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{26}N_6O_2$ Batch Molecular Weight:406.48Physical Appearance:Cream solid

**Solubility:** DMSO to 100 mM

ethanol to 100 mM

Storage: Store at -20°C

**Batch Molecular Structure:** 

#### 2. ANALYTICAL DATA

**TLC:**  $R_f = 0.4$  (Dichloromethane:Methanol [9:1])

**HPLC:** Shows 99.8% purity

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

Mass Spectrum: Consistent with structure

Microanalysis: Carbon Hydrogen Nitrogen

Theoretical 65.01 6.45 20.68 Found 64.92 6.53 20.42

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



# **Product Information**

Print Date: Mar 14th 2019

www.tocris.com

Product Name: GNE 2861 Catalog No.: 6490 Batch No.: 1

CAS Number: 1394121-05-1

IUPAC Name: 1-[2-[1-(2-Amino-4-pyrimidinyl)-2-[(2-methoxyethyl)amino]-1*H*-benzimidazol-6-yl]ethynyl]cyclohexanol

#### **Description:**

Inhibitor of group II p21 activated kinases (PAK; IC $_{50}$  values are 7.5, 126 and 36 nM for PAK4, PAK5 and PAK6, respectively). Displays selectivity for group II PAK over a panel of 222 kinases. Inhibits tumor cell proliferation, migration and invasion in two breast cancer cell lines. Also sensitizes tamoxifen-resistant breast cancer cell lines to tamoxifen (Cat. No. 6342) via PAK4-dependent regulation of estrogen receptor  $\alpha$  (ER $\alpha$ ) target gene expression.

#### **Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>22</sub>H<sub>26</sub>N<sub>6</sub>O<sub>2</sub> Batch Molecular Weight: 406.48 Physical Appearance: Cream solid

**Minimum Purity:** >98%

#### **Batch Molecular Structure:**

Storage: Store at -20°C

## 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. 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:

**Zhuang** *et al* (2015) p21-activated kinase group II small compound inhibitor GNE-2861 perturbs estrogen receptor alpha signaling and restores tamoxifen-sensitivity in breast cancer cells. Oncotarget. *6* 43853. PMID: 26554417.

**Staben** *et al* (2014) Back pocket flexibility provides group II p21-activated kinase (PAK) selectivity for type I 1/2 kinase inhibitors. J.Med.Chem. **57** 1033. PMID: 24432870.

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