

**Product Name:** AZD 7648

**Catalog No.:** 7825

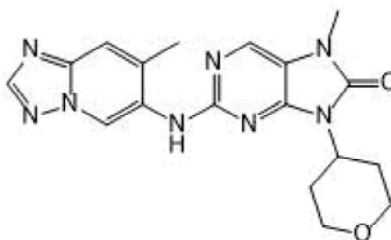
**Batch No.:** 1

CAS Number: 2230820-11-6

IUPAC Name: 7,9-Dihydro-7-methyl-2-[(7-methyl[1,2,4]triazolo[1,5-a]pyridin-6-yl)amino]-9-(tetrahydro-2H-pyran-4-yl)-8H-purin-8-one

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>18</sub>H<sub>20</sub>N<sub>8</sub>O<sub>2</sub>.  
**Batch Molecular Weight:** 380.41  
**Physical Appearance:** Cream solid  
**Solubility:** DMSO to 20 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.1% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	56.83	5.3	29.46
Found	56.89	5.1	29.11

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

**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors

Tel: +1 612 379 2956

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**1**

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**Description:**

AZD 7648 is a potent ( $IC_{50} = 0.6$  nM in an enzyme assay) and selective DNA-PK inhibitor. It is selective for DNA-PK over a range of kinases including PI3K $\alpha$ , PI3K $\delta$ , PI3K $\gamma$ , ATM, ATR and mTOR. In combination with radiotherapy, it leads to tumor regression in fully immuno-competent mice models. It also enhances the activity of PARP inhibitor Olaparib (Cat. No. 7579). AZD 7648 is orally bioavailable.

**Physical and Chemical Properties:**

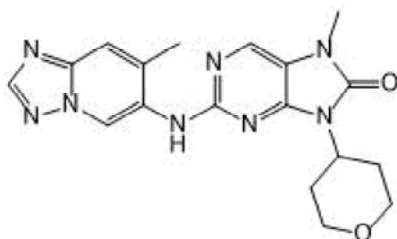
Batch Molecular Formula: C<sub>18</sub>H<sub>20</sub>N<sub>8</sub>O<sub>2</sub>.

Batch Molecular Weight: 380.41

Physical Appearance: Cream solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 20 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:**

**Nakamura *et al*** (2021) Inhibition of DNA-PK with AZD7648 sensitizes tumor cells to radiotherapy and induces type I IFN-dependent durable tumor control. *Clin.Cancer Res.* **27** 4353. PMID: 34011558.

**Goldberg *et al*** (2020) The discovery of 7-methyl-2-[(7-methyl[1,2,4]triazolo[1,5- a]pyridin-6-yl)amino]-9-(tetrahydro-2 H-pyran-4-yl)-7,9-dihydro-8 H-purin-8-one (AZD7648), a potent and selective DNA-dependent protein kinase (DNA-PK) inhibitor. *J.Med.Chem.* **63** 3461. PMID: 31851518.

**Fok *et al*** (2019) AZD7648 is a potent and selective DNA-PK inhibitor that enhances radiation, chemotherapy and olaparib activity. *Nat.Commun.* **10** 5065. PMID: 31699977.

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