

**Product Name:** RU.521

**Catalog No.:** 7904

**Batch No.:** 1

CAS Number: 2262452-06-0

IUPAC Name: 3-[1-(6,7-Dichloro-1*H*-benzimidazol-2-yl)-5-hydroxy-3-methyl-1*H*-pyrazol-4-yl]-1(3*H*)-isobenzofuranone

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>19</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>4</sub>O<sub>3</sub>·½H<sub>2</sub>O

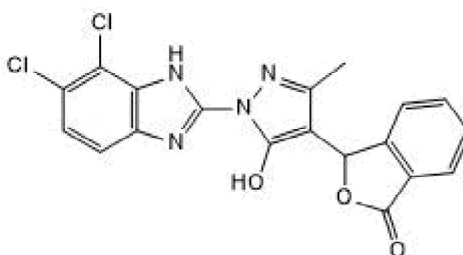
**Batch Molecular Weight:** 424.24

**Physical Appearance:** Peach solid

**Solubility:** DMSO to 50 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.1% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	53.79	3.09	13.21
Found	52.94	2.82	12.93

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**Description:**

RU.521 is a potent and selective cyclic GMP-AMP synthase (cGAS) inhibitor ( $K_d = 36.2$  nM). RU.521 suppresses dsDNA-activated reporter activity ( $IC_{50} = 0.11$   $\mu$ M against m-cGAS, and  $IC_{50} = 2.94$   $\mu$ M against h-cGAS) but not 5'ppp-HP20 RNA or murine IFN- $\beta$ , induced IFN- $\beta$ 1-dependent gene expression. RU.521 reduces constitutive expression of type I interferon in primary macrophages from a mouse model of Aicardi-Goutières syndrome (AGS). Pretreatment of chimeric antigen receptor (CAR) redirected T cells with RU.521 increases efficiency of virus-free gene editing by improving cell viability and CAR integration in cell line. Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

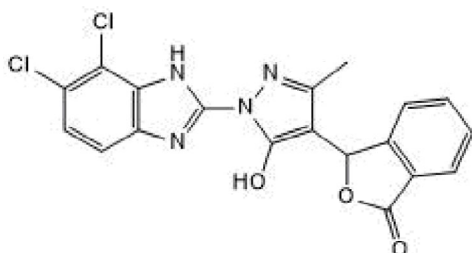
Batch Molecular Formula:  $C_{19}H_{12}Cl_2N_4O_3 \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 424.24

Physical Appearance: Peach solid

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

**Batch Molecular Structure:**



**References:**

**Kath et al (2022)** Pharmacological interventions enhance virus-free generation of TRAC-replaced CAR T cells. *Mol.Ther.Methods Clin.Dev* **25** 311. PMID: 35573047.

**Ke et al (2022)** cGAS-STING signaling pathway in gastrointestinal inflammatory disease and cancers. *FASEB J* **36** e22029. PMID: 34907606.

**Apel et al (2021)** The cytosolic DNA sensor cGAS recognizes neutrophil extracellular traps *Sci.Signal* **14** eaax7942. PMID: 33688080.

**Storage:** Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

DMSO to 50 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.

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**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