

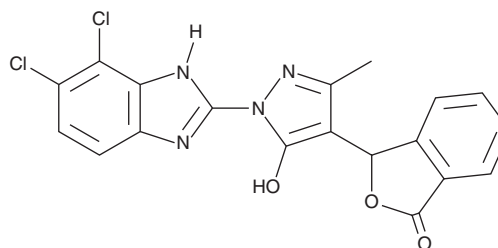
# PRODUCT INFORMATION



## RU-521

Item No. 31765

**CAS Registry No.:** 2262452-06-0  
**Formal Name:** 3-[1-(6,7-dichloro-1H-benzimidazol-2-yl)-5-hydroxy-3-methyl-1H-pyrazol-4-yl]-1(3H)-isobenzofuranone  
**Synonym:** RU-320521  
**MF:** C<sub>19</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>4</sub>O<sub>3</sub>  
**FW:** 415.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 303 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

RU-521 is supplied as a crystalline solid. A stock solution may be made by dissolving the RU-521 in the solvent of choice, which should be purged with an inert gas. RU-521 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of RU-521 in these solvents is approximately 30 mg/ml.

RU-521 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, RU-521 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. RU-521 has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

RU-521 is an inhibitor of cyclic GMP-AMP (cGAMP) synthase (cGAS; IC<sub>50</sub> = 0.11 μM).<sup>1</sup> It inhibits dsDNA-, but not IFN-β- or 5'ppp-HP20 RNA-, induced IFN-β1-dependent gene expression in reporter assays and does not inhibit Pam<sub>3</sub>CSK<sub>4</sub>-, poly(I:C)-, or LPS-induced *Il6* mRNA expression in RAW 264.7 cells, indicating selectivity for cGAS-mediated signaling. It reduces basal *Irfn1* mRNA expression in bone marrow-derived macrophages (BMDMs) generated from the *Trex1*<sup>-/-</sup> mouse model of Aicardi-Goutières syndrome, an autoimmune disorder characterized by constitutive activation of cGAS and IFN overproduction.

### Reference

1. Vincent, J., Adura, C., Gao, P., *et al.* Small molecule inhibition of cGAS reduces interferon expression in primary macrophages from autoimmune mice. *Nat. Commun.* **8**(1), 750 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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