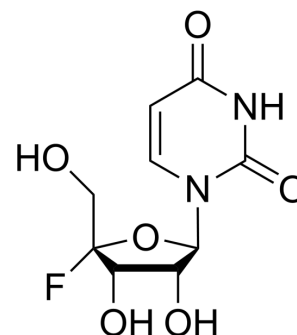


## EIDD-2749

|                           |   |       |          |
|---------------------------|---|-------|----------|
| <b>Cat. No.:</b>          | HY-146246   |       |          |
| <b>CAS No.:</b>           | 1613589-24-4  |       |          |
| <b>Molecular Formula:</b> | C <sub>9</sub> H <sub>11</sub> FN <sub>2</sub> O <sub>6</sub> |       |          |
| <b>Molecular Weight:</b>  | 262.19  |       |          |
| <b>Target:</b>            | RSV; SARS-CoV; HCV  |       |          |
| <b>Pathway:</b>           | Anti-infection  |       |          |
| <b>Storage:</b>           | Powder  | -20°C | 3 years  |
|                           |   | 4°C   | 2 years  |
|                           | In solvent  | -80°C | 6 months |
|                           |   | -20°C | 1 month  |



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 62.5 mg/mL (238.38 mM; Need ultrasonic)  
DMSO : 25 mg/mL (95.35 mM; Need ultrasonic)

|                              | Solvent<br>Concentration | Mass      |            |            |
|------------------------------|--------------------------|-----------|------------|------------|
|                              |                          | 1 mg      | 5 mg       | 10 mg      |
| Preparing<br>Stock Solutions | 1 mM                     | 3.8140 mL | 19.0701 mL | 38.1403 mL |
|                              | 5 mM                     | 0.7628 mL | 3.8140 mL  | 7.6281 mL  |
|                              | 10 mM                    | 0.3814 mL | 1.9070 mL  | 3.8140 mL  |

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 25 mg/mL (95.35 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (9.54 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (9.54 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

EIDD-2749 (4'-Fluorouridine) is an orally active RdRp inhibitor. EIDD-2749 effectively blocks the replication of RSV and SARS-CoV-2. EIDD-2749 also exhibits activity against HCV and lymphocytic choriomeningitis virus (LCMV). EIDD-2749 is a promising oral therapeutic candidate for COVID-19 and is also suitable for research on other RNA viruses<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

RdRp, RSV, SARS-CoV-2, HCV, COVID-19, LCMV<sup>[1][2][3]</sup>.

|                        |   |               |   |         |                 |                 |  |         |   |
|------------------------|---|---------------|---|---------|-----------------|-----------------|--|---------|---|
| <p><b>In Vitro</b></p> | <p>EIDD-2749 induces a delayed stalling of phosphodiester bond formation by RSV and SARS-CoV-2 RdRP<sup>[1]</sup>. EIDD-2749 is rapidly anabolizes, metabolically stable, and potently antiviral in disease-relevant well-differentiated HAE cultures<sup>[1]</sup>. EIDD-2749 shows a <math>\geq 17</math>-fold increase in anti-RSV potency relative to that on HEp-2 cells; however, the low cytotoxicity levels remains unchanged (<math>CC_{50}</math> 169 mM), resulting in a high SI (<math>SI = EC_{50}/CC_{50}</math>) of <math>\geq 1877</math><sup>[1]</sup>. EIDD-2749 inhibits SARS-CoV-2 with an <math>EC_{50}</math> value of 0.2-0.6 M<sup>[2]</sup>. EIDD-2749 has an <math>EC_{50}</math> of 1.86 <math>\mu</math>M in the Vero E6 cell line, cytotoxicity with a <math>CC_{50}</math> of 380 <math>\mu</math>M, and stability in human plasma<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |               |   |         |                 |                 |  |         |   |
| <p><b>In Vivo</b></p>  | <p>EIDD-2749 (0.2, 1, 5 mg/kg; p.o.; single daily for 4 days) shows good orally efficacious in RSV infection mice model in a dose-dependent manner<sup>[1]</sup>. EIDD-2749 shows high efficacious to SARS-CoV-2 infection and is effective with a single daily dose versus molnupiravir administered twice daily in vivo<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" data-bbox="345 621 1515 856"> <tr> <td>Animal Model:</td> <td>Balb/cJ mice (RSV infection model)<sup>[1]</sup>.</td> </tr> <tr> <td>Dosage:</td> <td>0.2, 1, 5 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Oral administration; single daily for 4 days</td> </tr> <tr> <td>Result:</td> <td>Resulted in a statistically significant reduction in lung virus load.</td> </tr> </table>  | Animal Model: | Balb/cJ mice (RSV infection model) <sup>[1]</sup> . | Dosage: | 0.2, 1, 5 mg/kg | Administration: | Oral administration; single daily for 4 days | Result: | Resulted in a statistically significant reduction in lung virus load. |
| Animal Model:          | Balb/cJ mice (RSV infection model) <sup>[1]</sup> .   |               |   |         |                 |                 |  |         |   |
| Dosage:                | 0.2, 1, 5 mg/kg   |               |   |         |                 |                 |  |         |   |
| Administration:        | Oral administration; single daily for 4 days  |               |   |         |                 |                 |  |         |   |
| Result:                | Resulted in a statistically significant reduction in lung virus load.   |               |   |         |                 |                 |  |         |   |

## REFERENCES

- [1]. Sourimant J, et al. 4'-Fluorouridine is an oral antiviral that blocks respiratory syncytial virus and SARS-CoV-2 replication. *Science*. 2022 Jan 14;375(6577):161-167.
- [2]. Abas AH, et al. 4'-fluorouridine and its derivatives as potential COVID-19 oral drugs: a review [version 1; peer review: 1 approved with reservations, 1 not approved]. *F1000Research* 2022, 11:410.
- [3]. George R. Painter, et al. 4'-halogen containing nucleotide and nucleoside therapeutic compositions and uses related thereto. Patent WO2019173602A1.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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