# DDX3-IN-2

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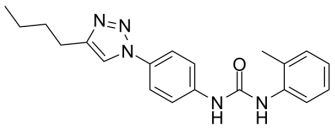
| **Cat. No.:** | HY-121969 |
| **CAS No.:** | 1919828-81-1 |
| **Molecular Formula:** | $C_{20}H_{23}N_5O$ |
| **Molecular Weight:** | 349.43 |
| **Target:** | HIV |
| **Pathway:** | Anti-infection |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 6 months<br>-20°C 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (286.18 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.8618 mL | 14.3090 mL | 28.6180 mL |
| | 5 mM | 0.5724 mL | 2.8618 mL | 5.7236 mL |
| | 10 mM | 0.2862 mL | 1.4309 mL | 2.8618 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.15 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

DDX3-IN-2 is an active DEADbox polypeptide 3 (DDX3) inhibitor with an $IC_{50}$ value of 0.3 μM. DDX3-IN-2 shows a broad spectrum of antiviral activity. DDX3-IN-2 has the potential to overcome HIV resistance[1].

**$IC_{50}$ & Target**

HIV

**In Vitro**

DDX3-IN-2 behaves as a competitive inhibitor with respect to the RNA substrate, which can be seen by the decrease in its inhibition potency as a function of increasing RNA substrate concentrations. DDX3-IN-2 is found to be completely inactive against the ATPase of DDX3, DDX1 helicase, and DENV NS3 helicase[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

DDX3-IN-2 (20 mg/kg; tail vein injection) possesses excellent biocompatibility, and Wistar rats shows a good tolerance to the dose of 20 mg/kg[1].

DDX3-IN-2 (10 mg/kg; i.v. bolus injection; 0~25 hours) rapidly eliminates the half-life elimination and the plasmatic clearance values[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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| Animal Model: | Wistar rats[1] |
| Dosage: | Tail vein injection |
| Administration: | 20 mg/kg |
| Result: | Possessed excellent biocompatibility, and Wistar rats showed a good tolerance to the dose of 20 mg/kg. |

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|---|---|
| Animal Model: | Rats[1] |
| Dosage: | I.v. bolus injection (Pharmacokinetic Analysis) |
| Administration: | 10 mg/kg; 0~25 hours |
| Result: | Rapidly eliminated the half-life elimination and the plasmatic clearance values. |

## REFERENCES

[1]. Brai A, et al. Human DDX3 protein is a valuable target to develop broad spectrum antiviral agents. Proc Natl Acad Sci U S A. 2016;113(19):5388-5393.



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