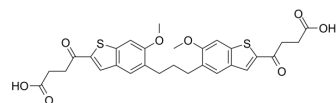


## MSA-2 dimer

|                    |   |
|--------------------|---|
| Cat. No.:          | HY-141514   |
| CAS No.:           | 2377881-92-8  |
| Molecular Formula: | C <sub>29</sub> H <sub>28</sub> O <sub>8</sub> S <sub>2</sub>                             |
| Molecular Weight:  | 568.66  |
| Target:            | STING   |
| Pathway:           | Immunology/Inflammation   |
| Storage:           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### SOLVENT & SOLUBILITY

|   |   |                          |       |           |           |            |
|---|---|--------------------------|-------|-----------|-----------|------------|
| In Vitro  | DMSO : 70 mg/mL (123.10 mM; Need ultrasonic)  |                          |       |           |           |            |
|   | Preparing Stock Solutions   | Solvent<br>Concentration | Mass  | 1 mg      | 5 mg      | 10 mg      |
|   |   |                          | 1 mM  | 1.7585 mL | 8.7926 mL | 17.5852 mL |
|   |   |                          | 5 mM  | 0.3517 mL | 1.7585 mL | 3.5170 mL  |
|   |   |                          | 10 mM | 0.1759 mL | 0.8793 mL | 1.7585 mL  |
| Please refer to the solubility information to select the appropriate solvent. |   |                          |       |           |           |            |
| In Vivo   | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 1.75 mg/mL (3.08 mM); Clear solution         |                          |       |           |           |            |
|   | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: 1.75 mg/mL (3.08 mM); Suspended solution; Need ultrasonic |                          |       |           |           |            |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 1.75 mg/mL (3.08 mM); Clear solution                                    |                          |       |           |           |            |

### BIOLOGICAL ACTIVITY

|                           |   |
|---------------------------|---|
| Description               | MSA-2 dimer is a selective, orally active non-nucleotide STING agonist (K <sub>d</sub> =145 μM) with long-term antitumor and immunogenic activity. MSA-2 dimer is bound to STING as a non-covalent dimer exhibiting higher permeability than cyclic dinucleotide <sup>[1]</sup> .   |
| IC <sub>50</sub> & Target | Kd: 145 μM (STING) <sup>[1]</sup>   |
| In Vivo                   | MSA-2 dimer (60 mg/kg; p.o.; 50 days) inhibits tumor growth and prolongs overall survival <sup>[1]</sup> .<br>MSA-2 dimer (40 mg/kg; s.c.; 25 days) induces complete tumor regression <sup>[1]</sup> .<br>MSA-2 dimer (60 mg/kg; p.o.; 4 hours) increases proinflammatory cytokine (IFN-β) level in tumors <sup>[1]</sup> . |

MSA-2 dimer (60 mg/kg; s.c.; 4 hours) concentrations is observed in tumors than in plasma or other nontumor tissues [1]. MSA-2 dimer (THP-1 cells) induces phosphorylation of both TBK1 and IR. MSA-2 dimer (10  $\mu$ M and 33  $\mu$ M; macrophages) induces IFN- $\beta$ [1].

MSA-2 dimer also exhibits dose-dependent antitumor activity when administered by IT, SC, or PO routes[1].

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

|                 |  |
|-----------------|--|
| Animal Model:   | B16F10 tumor-bearing mice                              |
| Dosage:         | 60 mg/kg   |
| Administration: | P.o.; 50 days  |
| Result:         | Inhibited tumor growth and prolonged overall survival. |

|                 |                                    |
|-----------------|------------------------------------|
| Animal Model:   | C57BL6 mice                        |
| Dosage:         | 40 mg/kg                           |
| Administration: | S.c.; 25 days                      |
| Result:         | Induced complete tumor regression. |

|                 |   |
|-----------------|---|
| Animal Model:   | C57BL6 mice   |
| Dosage:         | 60 mg/kg  |
| Administration: | P.o.; 4 hours   |
| Result:         | Increased proinflammatory cytokine (IFN- $\beta$ ) level in tumors. |

|                 |  |
|-----------------|--|
| Animal Model:   | C57BL6 mice  |
| Dosage:         | 50 mg/kg   |
| Administration: | S.c.; 4 hours  |
| Result:         | MSA-2 concentrations were observed in tumors than in plasma or other nontumor tissues. |

## REFERENCES

[1]. Pan BS, et al. An orally available non-nucleotide STING agonist with antitumor activity. Science. 2020;369(6506):eba6098.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA