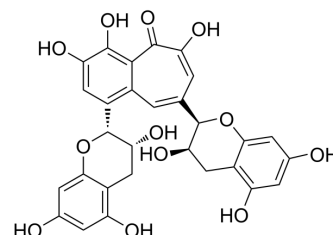


## Theaflavin

|                    |  |
|--------------------|--|
| Cat. No.:          | HY-N0243   |
| CAS No.:           | 4670-05-7  |
| Molecular Formula: | C <sub>29</sub> H <sub>24</sub> O <sub>12</sub>  |
| Molecular Weight:  | 564.49   |
| Target:            | Influenza Virus; Endogenous Metabolite   |
| Pathway:           | Anti-infection; Metabolic Enzyme/Protease  |
| Storage:           | <div> <div>Powder</div> <div>-20°C    3 years</div> <div>4°C    2 years</div> </div> <div> <div>In solvent</div> <div>-80°C    6 months</div> <div>-20°C    1 month</div> </div> |



### SOLVENT & SOLUBILITY

|   |   |  |           |           |            |
|---|---|--|-----------|-----------|------------|
| In Vitro  | DMSO : 50 mg/mL (88.58 mM; Need ultrasonic)   |  |           |           |            |
|   | H <sub>2</sub> O : 2 mg/mL (3.54 mM; Need ultrasonic and warming)   |  |           |           |            |
|   | Preparing<br>Stock Solutions  | <div>Solvent<br/>Concentration</div> <div>Mass</div> | 1 mg      | 5 mg      | 10 mg      |
|   |   | 1 mM   | 1.7715 mL | 8.8576 mL | 17.7151 mL |
|   |   | 5 mM   | 0.3543 mL | 1.7715 mL | 3.5430 mL  |
| 10 mM   |   | 0.1772 mL  | 0.8858 mL | 1.7715 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: 3 mg/mL (5.31 mM); Clear solution; Need ultrasonic |  |           |           |            |
|   | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: 3 mg/mL (5.31 mM); Clear solution; Need ultrasonic            |  |           |           |            |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: 3 mg/mL (5.31 mM); Suspended solution; Need ultrasonic                        |  |           |           |            |
|   |   |  |           |           |            |

### BIOLOGICAL ACTIVITY

|                           |   |
|---------------------------|---|
| Description               | Theaflavin is a suitable natural inhibitor against influenza A (H1N1) neuraminidase.  |
| IC <sub>50</sub> & Target | Influenza A (H1N1) virus <sup>[1]</sup>   |
| In Vitro                  | Theaflavin, found in green tea, is observed to inhibit H1N1 NA proteins strongly supported by lowest docking energy. Theaflavin is a plant product traditionally used for treatment of influenza infection. Green tea is particularly rich in |

---

polyphenolic compounds like Theaflavin. Theaflavin derivatives have shown pronounced antiviral activity. Theaflavin is found to interact with the amino acid residues like Arg118, Asp151, Asp 152, Arg193, Asp199, Asn344, and Arg430 of NA by forming hydrogen bonds<sup>[1]</sup>.

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

---

## CUSTOMER VALIDATION

---

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.
- Int J Biol Sci. 2021 Mar 2;17(4):1050-1060.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

---

[1]. Sahoo M, et al. Identification of Suitable Natural Inhibitor against Influenza A (H1N1) Neuraminidase Protein by Molecular Docking. Genomics Inform. 2016 Sep;14(3):96-103.

---

**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](mailto:tech@MedChemExpress.com)

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