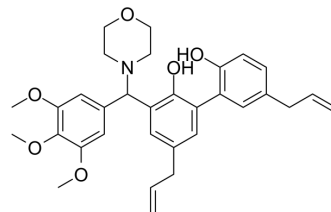


## Autophagy inducer 4

|                    |   |
|--------------------|---|
| Cat. No.:          | HY-146087   |
| CAS No.:           | 2486455-03-0  |
| Molecular Formula: | C <sub>32</sub> H <sub>37</sub> NO <sub>6</sub>   |
| Molecular Weight:  | 531.64  |
| Target:            | Autophagy   |
| Pathway:           | Autophagy   |
| Storage:           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                                     |  |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
|-------------------------------------|--|------------|---|----------------|---------|------------------|----------|---------|--|------------|-------------------------------|----------------|------------------|------------------|------------------------|---------|--|
| <b>Description</b>                  | Autophagy inducer 4 is a Magnolol-based Mannich base derivatives, which can be used as an anticancer agent. Autophagy inducer 4 suppresses cancer cells via inducing autophagy. Autophagy inducer 4 has 76-fold improvement in cytotoxicity against T47D cells compared with Magnolol. Autophagy inducer 4 also possesses suppressive effects on migration of T47D and Hela cancer cells <sup>[1]</sup> .  |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| <b>IC<sub>50</sub> &amp; Target</b> | IC <sub>50</sub> : 0.91 μM in T47D, 3.32 μM in MCF-7, 1.71 μM in Hela <sup>[1]</sup>   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| <b>In Vitro</b>                     | <p>Autophagy inducer 4 (compound 3p) (0-10 μM; 72 hours) displays highly potent antiproliferative activity against T47D, MCF-7 and Hela cell lines<sup>[1]</sup>.</p> <p>Autophagy inducer 4 (40-80 μM; 0-36 hours) significantly increases GFP-LC3 protein puncta with both dose- and time-dependent manners in HEK293 cells<sup>[1]</sup>.</p> <p>Autophagy inducer 4 (0-80 μM; 0-36 hours) increases the transformation of LC3-I into LC3-II in a dose- and time-dependent manner<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p><b>Cell Proliferation Assay</b></p> <table border="1"> <tr> <td>Cell Line:</td> <td>T47D, MCF-7 and Hela cells<sup>[1]</sup></td> </tr> <tr> <td>Concentration:</td> <td>0-10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>72 hours</td> </tr> <tr> <td>Result:</td> <td>Displayed highly potent antiproliferative activity against T47D, MCF-7 and Hela cell lines with IC<sub>50</sub> values of 0.91, 3.32 and 1.71 μM, respectively.</td> </tr> </table> <p><b>Cell Autophagy Assay</b></p> <table border="1"> <tr> <td>Cell Line:</td> <td>GFP-LC3-HEK293<sup>[1]</sup></td> </tr> <tr> <td>Concentration:</td> <td>40, 60 and 80 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>0, 12, 24 and 36 hours</td> </tr> <tr> <td>Result:</td> <td>Significantly increased GFP-LC3 protein puncta with both dose- and time-dependent manners in HEK293 cells.</td> </tr> </table> | Cell Line: | T47D, MCF-7 and Hela cells <sup>[1]</sup> | Concentration: | 0-10 μM | Incubation Time: | 72 hours | Result: | Displayed highly potent antiproliferative activity against T47D, MCF-7 and Hela cell lines with IC <sub>50</sub> values of 0.91, 3.32 and 1.71 μM, respectively. | Cell Line: | GFP-LC3-HEK293 <sup>[1]</sup> | Concentration: | 40, 60 and 80 μM | Incubation Time: | 0, 12, 24 and 36 hours | Result: | Significantly increased GFP-LC3 protein puncta with both dose- and time-dependent manners in HEK293 cells. |
| Cell Line:                          | T47D, MCF-7 and Hela cells <sup>[1]</sup>  |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Concentration:                      | 0-10 μM  |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Incubation Time:                    | 72 hours   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Result:                             | Displayed highly potent antiproliferative activity against T47D, MCF-7 and Hela cell lines with IC <sub>50</sub> values of 0.91, 3.32 and 1.71 μM, respectively.   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Cell Line:                          | GFP-LC3-HEK293 <sup>[1]</sup>  |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Concentration:                      | 40, 60 and 80 μM   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Incubation Time:                    | 0, 12, 24 and 36 hours   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |
| Result:                             | Significantly increased GFP-LC3 protein puncta with both dose- and time-dependent manners in HEK293 cells.   |            |   |                |         |                  |          |         |  |            |                               |                |                  |                  |                        |         |  |

---

### Western Blot Analysis

|                  |   |
|------------------|---|
| Cell Line:       | Hela, T47D and HEK293 <sup>[1]</sup>  |
| Concentration:   | 0, 5, 10 and 20 $\mu$ M in T47D and Hela; 0, 40, 60 and 80 $\mu$ M in HEK293  |
| Incubation Time: | 0, 12, 24 and 36 hours  |
| Result:          | Increased the transformation of LC3-I into LC3-II in a dose-dependent manner, and enhanced the expression of LC3-II in a time-dependent manner. |

---

### REFERENCES

[1]. Xu T, et al. Semisynthesis of novel magnolol-based Mannich base derivatives that suppress cancer cells via inducing autophagy. Eur J Med Chem. 2020;205:112663.

---

**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