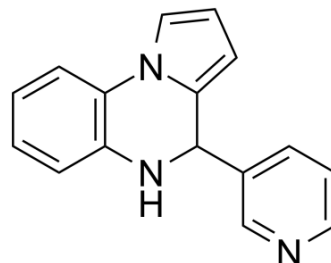


## UBCS039

|                    |  |       |          |
|--------------------|--|-------|----------|
| Cat. No.:          | HY-115453                                      |       |          |
| CAS No.:           | 358721-70-7                                    |       |          |
| Molecular Formula: | C <sub>16</sub> H <sub>13</sub> N <sub>3</sub> |       |          |
| Molecular Weight:  | 247.29   |       |          |
| Target:            | Sirtuin; Autophagy                             |       |          |
| Pathway:           | Cell Cycle/DNA Damage; Epigenetics; Autophagy  |       |          |
| Storage:           | Powder   | -20°C | 3 years  |
|                    |  | 4°C   | 2 years  |
|                    | In solvent                                     | -80°C | 6 months |
|                    |  | -20°C | 1 month  |



### SOLVENT & SOLUBILITY

|   |  |                          |           |            |            |       |
|---|--|--------------------------|-----------|------------|------------|-------|
| In Vitro  | DMSO : 125 mg/mL (505.48 mM; Need ultrasonic)  |                          |           |            |            |       |
|   |  | Solvent<br>Concentration | Mass      | 1 mg       | 5 mg       | 10 mg |
|   | Preparing<br>Stock Solutions   | 1 mM                     | 4.0438 mL | 20.2192 mL | 40.4384 mL |       |
|   |  | 5 mM                     | 0.8088 mL | 4.0438 mL  | 8.0877 mL  |       |
|   |  | 10 mM                    | 0.4044 mL | 2.0219 mL  | 4.0438 mL  |       |
| Please refer to the solubility information to select the appropriate solvent. |  |                          |           |            |            |       |
| In Vivo   | 1. Add each solvent one by one: <b>10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline</b><br>Solubility: ≥ 2.08 mg/mL (8.41 mM); Clear solution |                          |           |            |            |       |
|   | 2. Add each solvent one by one: <b>10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline)</b><br>Solubility: ≥ 2.08 mg/mL (8.41 mM); Clear solution                        |                          |           |            |            |       |
|   | 3. Add each solvent one by one: <b>10% DMSO &gt;&gt; 90% corn oil</b><br>Solubility: ≥ 2.08 mg/mL (8.41 mM); Clear solution  |                          |           |            |            |       |

### BIOLOGICAL ACTIVITY

|                           |  |
|---------------------------|--|
| Description               | UBCS039 is the first synthetic, specific <b>Sirtuin 6 (SIRT6)</b> activator, inducing autophagy in human tumor cells, with an EC <sub>50</sub> of 38 μM <sup>[1]</sup> . |
| IC <sub>50</sub> & Target | SIRT6<br>38 μM (EC50)  |

## In Vitro

UBCS039 (75  $\mu$ M, 48 or 72 hours) induces deacetylation of SIRT6-targeted histone H3 sites in human cancer cells<sup>[2]</sup>.  
UBCS039 leads to autophagosome accumulation in human cancer cells<sup>[2]</sup>.  
UBCS039 induces autophagy via AMP-activated protein kinase (AMPK) signaling pathway activation<sup>[2]</sup>.

### Western Blot Analysis<sup>[2]</sup>

|                  |  |
|------------------|--|
| Cell Line:       | Human H1299 cells.   |
| Concentration:   | 75 $\mu$ M.  |
| Incubation Time: | 48 and 72 hours.   |
| Result:          | Induced deacetylation of SIRT6-targeted histone H3 sites in human H1299 cells. |

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|                  |  |
|------------------|--|
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| Result:          | Induced deacetylation of SIRT6-targeted histone H3 sites in human H1299 cells. |

### Cell Proliferation Assay<sup>[2]</sup>

|                  |   |
|------------------|---|
| Cell Line:       | Human H1299 cells.  |
| Concentration:   | 100 $\mu$ M.  |
| Incubation Time: | 48 and 72 hours.  |
| Result:          | Led to a strong decrease of cell proliferation in a dose-dependent manner when compared with control or DMSO-treated cells, starting from day 3 of growth (48 h after treatment) in both H1299 and HeLa cell lines. |

## CUSTOMER VALIDATION

- J Med Chem. 2020 Aug 12.

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

## REFERENCES

[1]. Weijie You, et al. Structural Basis of Sirtuin 6 Activation by Synthetic Small Molecules. Angew. Chem. Int. Ed. 2017, 56, 1007-1011.

[2]. Sara Iachettini, et al. Pharmacological activation of SIRT6 triggers lethal autophagy in human cancer cells. Cell Death and Disease (2018) 9:996.

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

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