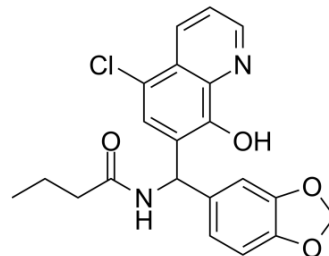


YUM70

| | | | |
|---------------------------|---|-------|----------|
| Cat. No.: | HY-138364 | | |
| CAS No.: | 423145-35-1 | | |
| Molecular Formula: | C ₂₁ H ₁₉ ClN ₂ O ₄ | | |
| Molecular Weight: | 398.84 | | |
| Target: | HSP; Apoptosis | | |
| Pathway: | Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis | | |
| 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 : 100 mg/mL (250.73 mM; Need ultrasonic) | | | |
| | | Solvent Concentration | Mass | |
| | | | 1 mg | 5 mg |
| | | | 10 mg | |
| Preparing Stock Solutions | 1 mM | 2.5073 mL | 12.5364 mL | 25.0727 mL |
| | 5 mM | 0.5015 mL | 2.5073 mL | 5.0145 mL |
| | 10 mM | 0.2507 mL | 1.2536 mL | 2.5073 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 Solubility: 2.5 mg/mL (6.27 mM); Suspended solution; Need ultrasonic | | | |

BIOLOGICAL ACTIVITY

| | |
|-------------------------------------|---|
| Description | YUM70 is a potent and selective inhibitor of glucose-regulated protein 78 (GRP78), with an IC ₅₀ of 1.5 μM for inhibiting GRP78 ATPase activity of the full-length protein. YUM70 induces endoplasmic reticulum (ER) stress-mediated apoptosis in pancreatic cancer. YUM70 also has in vivo efficacy in a pancreatic cancer xenograft model ^[1] . |
| IC₅₀ & Target | IC ₅₀ : 1.5 μM (glucose-regulated protein 78) ^[1] |
| In Vitro | YUM70 shows selective cytotoxicity for MIA PaCa-2, PANC-1, BxPC-3 cells (IC ₅₀ =2.8, 4.5, and 9.6 μM, respectively) over normal pancreatic tissue-derived HPNE cells (IC ₅₀ >30 μM) ^[1] . YUM70 (5 μM; 24 h) induces endoplasmic reticulum (ER) stress-mediated apoptosis of MIA PaCa-2 cells ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Western Blot Analysis ^[1] |

| | | | | | | | | | |
|------------------|--|---------------|--|----------------|----------------------------|------------------|--------------------------------|---------|--|
| | <table border="1"> <tr> <td>Cell Line:</td> <td>MIA PaCa-2, PANC-1 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.1, 1, 2.5, 5, 10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>2, 4, 8, 24, 48 hours</td> </tr> <tr> <td>Result:</td> <td>Increased the protein levels of FAM129A, DDIT3, CHAC-1, DDIT4, UPP1, and GRP78 in a dose- and time-dependent manner.</td> </tr> </table> | Cell Line: | MIA PaCa-2, PANC-1 cells | Concentration: | 0.1, 1, 2.5, 5, 10 μ M | Incubation Time: | 2, 4, 8, 24, 48 hours | Result: | Increased the protein levels of FAM129A, DDIT3, CHAC-1, DDIT4, UPP1, and GRP78 in a dose- and time-dependent manner. |
| Cell Line: | MIA PaCa-2, PANC-1 cells | | | | | | | | |
| Concentration: | 0.1, 1, 2.5, 5, 10 μ M | | | | | | | | |
| Incubation Time: | 2, 4, 8, 24, 48 hours | | | | | | | | |
| Result: | Increased the protein levels of FAM129A, DDIT3, CHAC-1, DDIT4, UPP1, and GRP78 in a dose- and time-dependent manner. | | | | | | | | |
| In Vivo | <p>YUM70 (30 mg/kg; i.p. 5 days a week for 7 weeks) inhibits tumor growth in a MIA PaCa-2 xenograft model^[1]. YUM70 (15 mg/kg; i.v.) exhibits $t_{1/2}$ (1.40 h), CL (724.04 mL/h/kg), and V_{ss} (1162.73 mL/kg) in mice^[1]. YUM70 (30 mg/kg; p.o.) exhibits bioavailability (6.71%), $t_{1/2}$ (2.74 h), and CL (9230.15 mL/h/kg) in mice^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>8-week old female NCr nude mice were injected with MIA PaCa-2 cells^[1]</td> </tr> <tr> <td>Dosage:</td> <td>30 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>I.p. 5 days a week for 7 weeks</td> </tr> <tr> <td>Result:</td> <td>Observed a significant tumor growth delay with no significant change in body weight during the course of treatment.</td> </tr> </table> | Animal Model: | 8-week old female NCr nude mice were injected with MIA PaCa-2 cells ^[1] | Dosage: | 30 mg/kg | Administration: | I.p. 5 days a week for 7 weeks | Result: | Observed a significant tumor growth delay with no significant change in body weight during the course of treatment. |
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REFERENCES

[1]. Samanta S, et, al. The hydroxyquinoline analog YUM70 inhibits GRP78 to induce ER stress-mediated apoptosis in pancreatic cancer. Cancer Res. 2021 Feb 2;canres.1540.2020.

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