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产品名称: **FIN56**  
产品别名: **FIN56**

| 生物活性:              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |             |              |
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| Description        | FIN56 is a specific inducer of ferroptosis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |             |              |
| In Vitro           | FIN56 causes the loss of GPX4 activity in cell lysates. FIN56-induced cell death is suppressed by GFP-GPX4 fusion protein overexpression. FIN56 triggers ferroptosis through a mechanism involving the regulation of GPX4 protein abundance[1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |             |              |
| Solvent&Solubility | <b>In Vitro:</b><br><b>DMSO</b> : $\geq 100$ mg/mL (193.18 mM)<br><b>H<sub>2</sub>O</b> : $< 0.1$ mg/mL (insoluble)<br><small>* "&gt;" means soluble, but saturation unknown.</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |             |              |
|                    | <b>Preparing Stock Solutions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Solvent</b>       | <b>Mass</b> |              |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Concentration</b> | <b>1 mg</b> | <b>5 mg</b>  |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |             | <b>10 mg</b> |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 mM                 | 1.9318 mL   | 9.6588 mL    |
|                    | 5 mM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.3864 mL            | 1.9318 mL   | 3.8635 mL    |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.1932 mL            | 0.9659 mL   | 1.9318 mL    |
|                    | <b>*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。</b><br><b>储备液的保存方式和期限</b> -80℃, 6 months; -20℃, 1 month。 -80℃ 储存时，请在 6 个月内使用，-20℃ 储存时，请在 1 个月内使用。<br><b>In Vivo:</b><br>请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：<br>——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶<br><b>1.请依序添加每种溶剂：</b> 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline<br><b>Solubility:</b> 2.5 mg/mL (4.83 mM); Suspended solution; Need ultrasonic<br>此方案可获得 2.5 mg/mL (4.83 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。<br>以 1 mL 工作液为例，取 100 $\mu$ L 25.0 mg/mL 的澄清 DMSO 储备液加到 400 $\mu$ L PEG300 中，混合均匀；向上述体系中加入 50 $\mu$ L Tween-80，混合均匀；然后继续加入 450 $\mu$ L 生理盐水定容至 1 mL。<br><b>2.请依序添加每种溶剂：</b> 10% DMSO→ 90% (20% SBE- $\beta$ -CD in saline)<br><b>Solubility:</b> 2.5 mg/mL (4.83 mM); Suspended solution; Need ultrasonic<br>此方案可获得 2.5 mg/mL (4.83 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。<br>以 1 mL 工作液为例，取 100 $\mu$ L 25.0 mg/mL 的澄清 DMSO 储备液加到 900 $\mu$ L 20% 的 SBE- $\beta$ -CD 生理盐水溶液中，混合均匀。<br><b>3.请依序添加每种溶剂：</b> 10% DMSO →90% corn oil<br><b>Solubility:</b> $\geq 2.5$ mg/mL (4.83 mM); Clear solution |                      |             |              |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |             |              |
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|            | <p>此方案可获得 <math>\geq 2.5</math> mg/mL (4.83 mM, 饱和度未知) 的澄清溶液, 此方案不适用于实验周期在半个月以上的实验。</p> <p>以 1 mL 工作液为例, 取 100 <math>\mu</math>L 25.0 mg/mL 的澄清 DMSO 储备液加到 900 <math>\mu</math>L 玉米油中, 混合均匀。</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| References | <p>[1]. Shimada K, et al. Global survey of cell death mechanisms reveals metabolic regulation of ferroptosis. Nat Chem Biol. 2016 Jul;12(7):497-503.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 实验参考:      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Cell Assay | <p>1000 cells/36 <math>\mu</math>L are seeded in each well in 384-well plates. Lethal compounds are dissolved and a 2-fold, 12-point dilution series are prepared in DMSO. Compound solutions are further diluted with media at 1:25 and 4 <math>\mu</math>L/well of the diluted solutions are added to cell cultures immediately after cells are seeded. When ferroptosis inhibitors (100 <math>\mu</math>M <math>\alpha</math>-tocopherol, 152 <math>\mu</math>M deferoxamine, or 10 <math>\mu</math>M U-0126) are co-treated with lethal inducers, they are supplemented to cell culture at the same time as lethal compounds are added, and the cells are incubated for 24 hrs. When other cell death modulating compounds (100 nM sodium selenite, 1 <math>\mu</math>M cerivastatin, 100 <math>\mu</math>g/mL mevalonic acid) are co-treated, they are first supplemented to cell culture for 24 hrs before lethal compounds are added to cell culture and further incubated for 24 hrs at 37°C under 5% CO<sub>2</sub>. On the day of the viability measurement, 10 <math>\mu</math>L/well of 50% Alamar Blue diluted in media is added and further incubated at 37°C for 6 hrs. Fluorescence intensity (ex/em: 530/590) is measured with a Victor 3 plate reader and the normalized viability is calculated by <math>VL = (IL - I0)/(IV - I0)</math>, where VL, I0, IV, and IL are the normalized viability, raw fluorescence intensities from the wells containing media, cells treated with a vehicle (negative control), and cells with the lethal compound (L), respectively. When the effect of a chemical modulator (M) on L is calculated, we instead used the equation: <math>VL M = (IM,L - I0)/(IM,V - I0)</math>, where VL M, IM,L and IM,V are the normalized viability, and fluorescence intensity from cells treated with M and V, and from cells with M and L, respectively. The viability is typically measured in biological triplicates unless otherwise specified. A representative dose-response curve, the mean and standard error of normalized viability from one replicate are plotted. [1]</p> |
| References | <p>[1]. Shimada K, et al. Global survey of cell death mechanisms reveals metabolic regulation of ferroptosis. Nat Chem Biol. 2016 Jul;12(7):497-503.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |