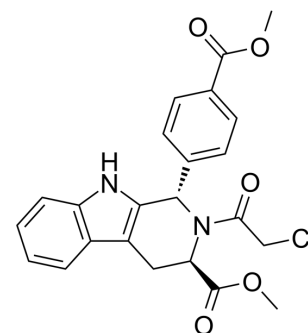


## RSL3

<b>Cat. No.:</b>	HY-100218A
<b>CAS No.:</b>	1219810-16-8
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>21</sub> ClN <sub>2</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	440.88
<b>Target:</b>	Glutathione Peroxidase; Ferroptosis
<b>Pathway:</b>	Metabolic Enzyme/Protease; Apoptosis
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



## SOLVENT & SOLUBILITY

### In Vitro

DMSO : 250 mg/mL (567.05 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.2682 mL	11.3410 mL	22.6819 mL
	5 mM	0.4536 mL	2.2682 mL	4.5364 mL
	10 mM	0.2268 mL	1.1341 mL	2.2682 mL

Please refer to the solubility information to select the appropriate solvent.

### In Vivo

- Add each solvent one by one: 50% PEG300 >> 50% saline  
Solubility: 20 mg/mL (45.36 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: 5 mg/mL (11.34 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (5.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (4.72 mM); Clear solution
- Add each solvent one by one: 10% DMF >> 90% corn oil  
Solubility: ≥ 0.56 mg/mL (1.27 mM); Clear solution

## BIOLOGICAL ACTIVITY

### Description

RSL3 ((1S,3R)-RSL3) is an inhibitor of glutathione peroxidase 4 (GPX4) (ferroptosis activator), reduces the expression of GPX4 protein, and induces ferroptotic death of head and neck cancer cell. RSL3 increases the expression of p62 and Nrf2 and inactivates Keap1 in HN3-rsIR cells<sup>[1]</sup>.

<b>IC<sub>50</sub> &amp; Target</b>	Glutathione peroxidase 4 <sup>[1]</sup>	
<b>In Vitro</b>	<p>RSL3 (0-8 μM, 72 hours) potently reduces the viability of HN3 cells, with IC<sub>50</sub>s of 0.48 μM in HN3 and 5.8 μM in HN3-rsLR cells, respectively<sup>[1]</sup>.</p> <p>RSL3 (0-8 μM, 24 hours) reduces the expression of GPX4 protein, increases the expression of p62 and Nrf2 and inactivates Keap1 in HN3-rsLR cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay<sup>[1]</sup></p>	
	Cell Line:	HN3 cells, HN3-rsLR cells
	Concentration:	0-8 μM
	Incubation Time:	72 hours
	Result:	Showed IC <sub>50</sub> s of 0.48 μM in HN3 and 5.8 μM in HN3-rsLR cells, respectively <sup>[1]</sup> .
	Western Blot Analysis <sup>[1]</sup>	
	Cell Line:	HN3-rsLR cells
	Concentration:	0-8 μM
	Incubation Time:	24 hours
	Result:	Inhibited GPX4 expression, increased p62 and Nrf2 levels, and decreased Keap1 levels.
<b>In Vivo</b>	<p>RSL3 (100 mg/kg, Intratumorally twice per week for 20 days) significantly inhibits the growth of tumor in combination with trigonelline in mice bearing HN3R cells.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
	Animal Model:	Ten-week-old athymic BALB/c male nude mice (nu/nu) bearing HN3R cells <sup>[1]</sup>
	Dosage:	100 mg/kg in combination with trigonelline (50 mg/kg)
	Administration:	Intratumorally twice per week for 20 days
	Result:	Significantly reduced the volume of tumor combined with trigonelline in mice.

## CUSTOMER VALIDATION

- Brief Bioinform. 2021 Sep 22;bbab388.
- Small. 2021 Aug;17(32):e2101368.
- Nano Lett. 2019 Nov 13;19(11):7781-7792.
- Chem Eng J. 15 October 2022, 137110.
- Redox Biol. September 2022, 102408.

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

## REFERENCES

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

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