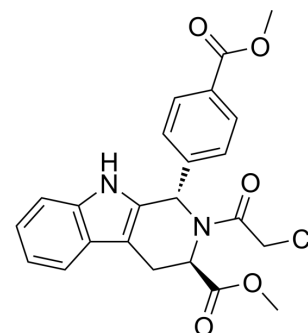


RSL3

Cat. No.:	HY-100218A
CAS No.:	1219810-16-8
Molecular Formula:	C ₂₃ H ₂₁ ClN ₂ O ₅
Molecular Weight:	441
Target:	Glutathione Peroxidase; Ferroptosis
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (226.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.2676 mL	11.3379 mL	22.6757 mL
	5 mM	0.4535 mL	2.2676 mL	4.5351 mL
	10 mM	0.2268 mL	1.1338 mL	2.2676 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 (45.35 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^[1].

IC₅₀ & Target	Glutathione peroxidase 4 ^[1]	
In Vitro	<p>RSL3 (0-8 μM, 72 hours) potently reduces the viability of HN3 cells, with IC₅₀s of 0.48 μM in HN3 and 5.8 μM in HN3-rsLR cells, respectively^[1].</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^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p>	
	Cell Line:	HN3 cells, HN3-rsLR cells
	Concentration:	0-8 μM
	Incubation Time:	72 hours
	Result:	Showed IC ₅₀ s of 0.48 μM in HN3 and 5.8 μM in HN3-rsLR cells, respectively ^[1] .
	Western Blot Analysis ^[1]	
	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.
In Vivo	<p>RSL3 (100 mg/kg, Intratumorally twice per week for 20 days) significantly inhibits the growth of tumor in combination with Trigonelline (HY-N0414) in mice bearing HN3R cells^[1].</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 ^[1]
	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

- Cell Discov. 2022 May 3;8(1):40.
- J Hematol Oncol. 2023 May 3;16(1):46.
- Cancer Discov. 2023 Apr 3;CD-22-0411.
- Nat Cancer. 2022 Apr;3(4):471-485.
- Adv Funct Mater. 2023 Apr 28.

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REFERENCES

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

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