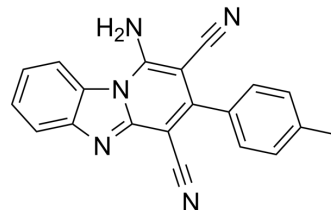


## iFSP1

<b>Cat. No.:</b>	HY-136057		
<b>CAS No.:</b>	150651-39-1		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>13</sub> N <sub>5</sub>		
<b>Molecular Weight:</b>	323.35		
<b>Target:</b>	Ferroptosis		
<b>Pathway:</b>	Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



## SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 12.5 mg/mL (38.66 mM; ultrasonic and warming and heat to 60°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	3.0926 mL	15.4631 mL	30.9262 mL
		5 mM	0.6185 mL	3.0926 mL	6.1852 mL
10 mM		0.3093 mL	1.5463 mL	3.0926 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2 mg/mL (6.19 mM); Suspended solution; Need ultrasonic				

## BIOLOGICAL ACTIVITY

<b>Description</b>	iFSP1 is a potent, selective and glutathione-independent inhibitor of ferroptosis suppressor protein 1 (FSP1) (AIFM2) with an EC <sub>50</sub> of 103 nM. iFSP1 selectively induces ferroptosis in GPX4-knockout cells which overexpressed FSP1. iFSP1 is able to sensitize a variety of human cancer cell lines to the ferroptosis inducer, such as (1S,3R)-RSL3 (HY-100218A) <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	EC50: 103 nM (FSP1) <sup>[1]</sup>
<b>In Vitro</b>	<p>iFSP1 (0.001-1 μM; 24 hours) inhibits the Gpx4-knockout cell growth as a dose-dependent manner, but does not inhibit the wild type cell growth. Treatment with the ferroptosis inhibitor Lip-1 protects GPX4- knockout cells from iFSP1-induced ferroptosis<sup>[1]</sup>.</p> <p>iFSP1 (0.001-1 μM; 24 hours) is less efficient than genetic deletion of FSP1, whereas iFSP1 treatment in the FSP1-knockout background had no additive effect to RSL3-induced ferroptosis<sup>[1]</sup>.</p> <p>iFSP1 (3 μM; 24 hours) treatment results in an obvious toxicity of RSL3 in a panel of genetically engineered (FSP1-knockout)</p>

human cancer cell lines<sup>[1]</sup>.

AIFM2: the flavoprotein apoptosis-inducing factor mitochondria-associated 2 is a previously unrecognized anti-ferroptotic gene. AIFM2, which is renamed ferroptosis suppressor protein 1 (FSP1)<sup>[1]</sup>

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Cell Proliferation Assay<sup>[1]</sup>

Cell Line:	Wild-type and Gpx4-knockout Pfa1 or HT 1080 cells overexpressing FSP1-HA
Concentration:	0.001-1 $\mu$ M
Incubation Time:	24 hours
Result:	Was toxic to cells that depend solely (no GPX4 expression detectable) on FSP1 function.

#### Cell Viability Assay<sup>[1]</sup>

Cell Line:	NCI-H1437, NCI-H1437 FSP1 KO, U-373, U-373 FSP1 KO, MDA-MB-436, MDA-MB-436 FSP1 KO, SW620, SW620 FSP1 KO, MDA-MB-435S, MDA-MB-435S FSP1 KO, A549 and A549 FSP1 KO
Concentration:	3 $\mu$ M
Incubation Time:	24 hours
Result:	Sensitized a variety of human cancer cell lines to the ferroptosis inducer (1S,3R)-RSL3.

## CUSTOMER VALIDATION

- Cell Discov. 2022 May 3;8(1):40.
- Adv Mater. 2023 Jan 13;e2211579.
- Nat Commun. 2023 Oct 30;14(1):6908.
- Small. 2021 Aug;17(32):e2101368.
- Adv Healthc Mater. 2023 Jul 11;e2300994.

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## REFERENCES

[1]. Doll S, et al. FSP1 is a glutathione-independent ferroptosis suppressor. Nature. 2019 Nov;575(7784):693-698.

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

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