

## Product Data Sheet

### Erastin

<b>Cat. No.:</b>	B1524
<b>CAS No.:</b>	571203-78-6
<b>Formula:</b>	C <sub>30</sub> H <sub>31</sub> ClN <sub>4</sub> O <sub>4</sub>
<b>M.Wt:</b>	547.04
<b>Synonyms:</b>	
<b>Target:</b>	VDAC2, VDAC3
<b>Pathway:</b>	Ion Channel, Autophagy
<b>Storage:</b>	Store at -20° C; The product is not stable in solution, please dissolve it immediately before use.



### Solvent & Solubility

insoluble in H<sub>2</sub>O; insoluble in EtOH; ≥10.92 mg/mL in DMSO with gentle warming

In Vitro

	Solvent	Mass Concentration	1mg	5mg	10mg
Preparing Stock Solutions		1 mM	1.8280 mL	9.1401 mL	18.2802 mL
		5 mM	0.3656 mL	1.8280 mL	3.6560 mL
		10 mM	0.1828 mL	0.9140 mL	1.8280 mL

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

### Biological Activity

Shortsummary

Erastin (CAS 571203-78-6) is a small molecule inducer of ferroptosis, a form of iron-dependent, non-apoptotic cell death. It targets tumor cells harboring oncogenic mutations in the RAS family (HRAS, KRAS) or BRAF genes, leading to lethal oxidative damage through elevated intracellular reactive oxygen species (ROS). Mechanistically, erastin modulates the voltage-dependent anion channel (VDAC) and inhibits the cystine/glutamate antiporter system X<sub>c</sub><sup>-</sup>, thereby disrupting redox homeostasis. Erastin is broadly utilized in research on ferroptosis and cancer biology.

IC<sub>50</sub> & Target

In Vitro

Cell Viability Assay

	Cell Line:	Engineered human tumour cells (BJ-TERT/LT/ST/RAS V12 cells), HT-1080 fibrosarcoma cell line
	Preparation method:	The solubility of this compound in DMSO is >27.4mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
	Reacting conditions:	10 µM, 24h
	Applications:	Erastin activates a rapid, oxidative, non-apoptotic cell death process. Erastin exhibits greater lethality in human tumour cells harbouring mutations in the oncogenes HRAS, KRAS or BRAF. Erastin treatment of cells harbouring oncogenic RAS causes the appearance of oxidative species and subsequent death through an oxidative, non-apoptotic mechanism. Treatment of NRAS mutant HT-1080 fibrosarcoma cells with the RSL molecule erastin (10 µM) resulted in a time-dependent increase in cytosolic and lipid ROS beginning
In Vivo	<b>Animal experiment</b>	
	Animal models:	Male C57BL/6 mice
	Dosage form:	25 mg/kg, 2 days at 12-h intervals
	Applications:	Erastin induced ferroptosis and caused pathological changes in healthy tissues of mice. This suggested that the anti - tumor drug erastin was somewhat toxic to healthy tissues.
	Preparation method:	Mice were intraperitoneal injected with 25 mg/kg body weight of erastin or solvent for 2 days at 12-h intervals
	Other notes:	The technical data provided above is for reference only. Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

## Product Citations

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

## References

- 1.Yagoda N, von Rechenberg M, Zaganjor E, Bauer AJ, Yang WS, Fridman DJ, Wolpaw AJ, Smukste I, Peltier JM, Boniface JJ, Smith R, Lessnick SL, Sahasrabudhe S, Stockwell BR. RAS-RAF-MEK-dependent oxidative cell death involving voltage-dependent anion channels. Nature. 2007 Jun 14;447(7146):864-8.
2. Dixon SJ, Lemberg KM, Lamprecht MR, Skouta R, Zaitsev EM, Gleason CE, Patel DN, Bauer AJ, Cantley AM, Yang WS, Morrison

B 3rd, Stockwell BR. Ferroptosis: an iron-dependent form of nonapoptotic cell death. Cell. 2012 May 25;149(5):1060-72.

3.Zhao J, Xu B, Xiong Q, Feng Y, Du H. Erastin- induced ferroptosis causes physiological and pathological changes in healthy tissues of mice. Mol Med Rep. 2021 Oct;24(4):713. doi: 10.3892/mmr.2021.12352. Epub 2021 Aug 13. PMID: 34396451; PMCID: PMC8383038.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

**APExBIO Technology**

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