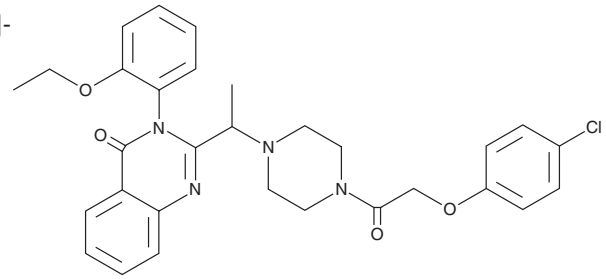
PRODUCT INFORMATION

Erastin

Item No. 17754

CAS Registry No.:	571203-78-6
Formal Name:	2-[1-[4-[2-(4-chlorophenoxy)acetyl]-1-piperazinyl]ethyl]-3-(2-ethoxyphenyl)-4(3H)-quinazolinone
MF:	$C_{30}H_{31}ClN_4O_4$
FW:	547.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 225, 276, 304 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Erastin is supplied as a crystalline solid. A stock solution may be made by dissolving the erastin in the solvent of choice. Erastin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of erastin in these solvents is approximately 1 and 10 mg/ml, respectively.

Erastin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, erastin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Erastin has a solubility of approximately 0.25 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Erastin, named for *er*adicator of *RAS* and small T (ST) antigen-expressing cells, is a ferroptosis inducer.[1] It induces ferroptotic cell death *in vitro*, an effect that can be blocked by the ferroptosis inhibitors ciclopirox olamine, Trolox (Item No. 10011659), ferrostatin-1 (Item No. 17729), U-0126 (Item No. 70970), cycloheximide (Item No. 14126), and β-mercaptoethanol. Erastin (5 µM) inhibits cystine uptake by the system X_c^- cystine-glutamate transporter in HT-1080 fibrosarcoma and Calu-1 lung carcinoma cells and inhibits glutamate release in an enzyme-coupled fluorescence assay (EC_{50} = 1.2 µM). It also selectively induces cell death in cells expressing the SV40 small T oncoprotein and oncogenic Ras (IC_{50}s = 1.25-5 µg/ml).[2]

References

1. Dixon, S.J., Patel, D.N., Welsch, M., *et al.* Pharmacological inhibition of cystine-glutamate exchange induces endoplasmic reticulum stress and ferroptosis. *Elife* **3**, e02523 (2014).
2. Dolma, S., Lessnick, S.L., Hahn, W.C., *et al.* Identification of genotype-selective antitumor agents using synthetic lethal chemical screening in engineered human tumor cells. *Cancer Cell* **3(3)**, 285-296 (2003).

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