



# SZABO SCANDIC

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### SZABO-SCANDIC HandelsgmbH

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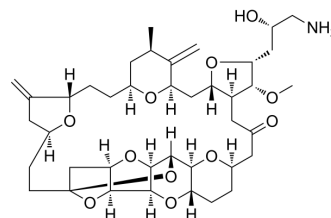
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## Eribulin

<b>Cat. No.:</b>	HY-13442
<b>CAS No.:</b>	253128-41-5
<b>Molecular Formula:</b>	C <sub>40</sub> H <sub>59</sub> NO <sub>11</sub>
<b>Molecular Weight:</b>	729.9
<b>Target:</b>	Microtubule/Tubulin; Apoptosis; ADC Cytotoxin
<b>Pathway:</b>	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis; Antibody-drug Conjugate/ADC Related
<b>Storage:</b>	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 200 mg/mL (274.01 mM; Need ultrasonic)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>1.3701 mL</td> <td>6.8503 mL</td> <td>13.7005 mL</td> </tr> <tr> <td>5 mM</td> <td>0.2740 mL</td> <td>1.3701 mL</td> <td>2.7401 mL</td> </tr> <tr> <td>10 mM</td> <td>0.1370 mL</td> <td>0.6850 mL</td> <td>1.3701 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	1.3701 mL	6.8503 mL	13.7005 mL	5 mM	0.2740 mL	1.3701 mL	2.7401 mL	10 mM	0.1370 mL	0.6850 mL	1.3701 mL
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	Please refer to the solubility information to select the appropriate solvent.																					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 5 mg/mL (6.85 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 5 mg/mL (6.85 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 5 mg/mL (6.85 mM); Clear solution</li> </ol>																					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Eribulin (E7389) is a microtubule targeting agent that is used for the research of metastatic breast cancer. Eribulin inhibits the proliferation of cancer cells by binding microtubule proteins and microtubules.
<b>In Vitro</b>	<p>Eribulin (1-100 nM; 72 h) inhibits cells proliferation, with IC<sub>50</sub>s of 22.8 and 21.5 nM for LM8 and Dunn cells, respectively<sup>[1]</sup>.</p> <p>Eribulin (10-50 nM; 12-72 h) increases early apoptosis significantly after 24 h treatment at the dose of 50 nM in LM8 cells<sup>[1]</sup>.</p> <p>Eribulin (10-50 nM; 12-72 h) induces G2/M arrest by 12 h treatment with at the dose of 50 nM, but not by long-term treatment (72 h) with 10 nM in LM8 cells<sup>[1]</sup>.</p> <p>Eribulin (1-50 nM; 12 h) does not induce senescence in LM8 cells<sup>[1]</sup>.</p>

Eribulin (1-10 nM; 16 h) induces morphological change and suppresses cell migration in a low concentration in LM8 cells<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:	LM8 cells and Dunn cells
Concentration:	0, 1, 10, 100 nM
Incubation Time:	72 hours
Result:	Inhibited cells proliferation in a dose-dependent manner.

#### Apoptosis Analysis<sup>[1]</sup>

Cell Line:	LM8 cells
Concentration:	0, 10, 50 nM
Incubation Time:	12, 24, 48, 72 hours
Result:	Induced early apoptosis after 12 h at the concentration of 50 nM. Not detected apoptosis at the concentration of 10 nM.

#### Cell Cycle Analysis<sup>[1]</sup>

Cell Line:	LM8 cells
Concentration:	0, 10, 50 nM
Incubation Time:	12, 24, 48, 72 hours
Result:	Induced G2/M arrest by 12 h treatment with 50 nM. No G2/M arrest was induced by 10 nM treatment.

### In Vivo

Eribulin (1 mg/kg; i.v. once a week for 2 weeks) reduces primary tumor growth and lung metastasis of osteosarcoma in mice<sup>[1]</sup>.

Eribulin (1 mg/kg; once i.v.) suppresses circulating tumor cells (CTC) appearance in the low-concentration phase<sup>[1]</sup>.

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

Animal Model:	C3H/HeN mice (4-week-old) are injected LM8 cells <sup>[1]</sup>
Dosage:	1 mg/kg
Administration:	I.v. once a week for 2 weeks
Result:	Suppressed primary tumor growth and induced apoptosis in tumor cells. Reduced lung metastasis. Decreased the body weights.

## CUSTOMER VALIDATION

- iScience. 6 September 2022, 105081.

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## REFERENCES

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- [1]. Okouneva, T., et al., Inhibition of centromere dynamics by eribulin (E7389) during mitotic metaphase. *Mol Cancer Ther*, 2008. 7(7): p. 2003-11.
  - [2]. Smith, J.A., et al., Eribulin binds at microtubule ends to a single site on tubulin to suppress dynamic instability. *Biochemistry*, 2010. 49(6): p. 1331-7.
  - [3]. Towle, M.J., et al., Eribulin induces irreversible mitotic blockade: implications of cell-based pharmacodynamics for in vivo efficacy under intermittent dosing conditions. *Cancer Res*, 2011. 71(2): p. 496-505.
  - [4]. Watanabe K, et, al. Low-dose eribulin reduces lung metastasis of osteosarcoma in vitro and in vivo. *Oncotarget*. 2019 Jan 4; 10(2): 161-174.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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