



# SZABO SCANDIC

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Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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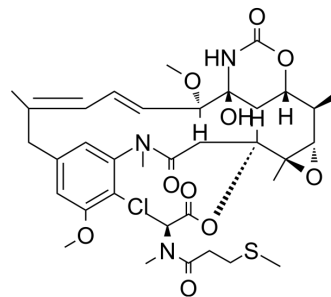
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## S-methyl DM1

<b>Cat. No.:</b>	HY-100504
<b>CAS No.:</b>	912569-84-7
<b>Molecular Formula:</b>	C <sub>36</sub> H <sub>50</sub> ClN <sub>3</sub> O <sub>10</sub> S
<b>Molecular Weight:</b>	752.31
<b>Target:</b>	Microtubule/Tubulin; ADC Cytotoxin
<b>Pathway:</b>	Cell Cycle/DNA Damage; Cytoskeleton; Antibody-drug Conjugate/ADC Related
<b>Storage:</b>	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (132.92 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		1.3292 mL	6.6462 mL	13.2924 mL
		<b>5 mM</b>		0.2658 mL	1.3292 mL	2.6585 mL
<b>10 mM</b>		0.1329 mL	0.6646 mL	1.3292 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 >> 90% corn oil Solubility: ≥ 2.5 mg/mL (3.32 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	S-methyl DM1 is a thiomethyl derivative of Maytansine. S-methyl DM1 binds to tubulin with a K <sub>d</sub> of 0.93 μM and inhibits microtubule polymerization. S-methyl DM1 potently suppresses microtubule dynamic instability and has anticancer effects [1][2].
<b>IC<sub>50</sub> &amp; Target</b>	Maytansinoids
<b>In Vitro</b>	<p>S-methyl DM1 is the primary cellular or liver metabolite of antibody-maytansinoid conjugates prepared with thiol-containing maytansinoids DM1<sup>[1]</sup>.</p> <p>The half-maximal concentration for inhibition of microtubule assembly for S-methyl DM1 is 4 μM. At 100 nM S-methyl-DM1 (84%) suppresses dynamic instability more strongly than Maytansine (45%). Tritiated S-methyl-DM1 bound to 37 high-affinity sites per microtubule (K<sub>d</sub> of 0.1 μM)<sup>[1]</sup>.</p> <p>The concentration dependence curves for the inhibition of cell proliferation by S-methyl DM1 is sigmoidal in shape in MCF7 cells. Minimal inhibition occurred at 200 pM S-methyl DM1, and inhibition is maximal at 3 nM. S-methyl DM1 (IC<sub>50</sub> of 330 pM) is slightly more potent than Maytansine (IC<sub>50</sub> of 710 pM)<sup>[2]</sup>.</p>

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S-methyl DM1 induces maxima of 80% accumulation of cells in G2/M as compared with only 30% in controls in MCF7 cells<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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[1]. Lopus M, et al. Maytansine and cellular metabolites of antibody-maytansinoid conjugates strongly suppress microtubule dynamics by binding to microtubules. Mol Cancer Ther. 2010 Oct;9(10):2689-99.

[2]. Oroudjev E, et al. Maytansinoid-antibody conjugates induce mitotic arrest by suppressing microtubule dynamic instability. Mol Cancer Ther. 2010 Oct;9(10):2700-13.

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

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