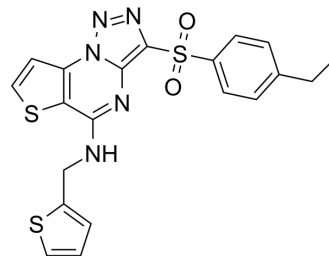


## UT-B-IN-1

<b>Cat. No.:</b>	HY-128129		
<b>CAS No.:</b>	892742-76-6		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>17</sub> N <sub>5</sub> O <sub>2</sub> S <sub>3</sub>		
<b>Molecular Weight:</b>	455.58		
<b>Target:</b>	Urea Transporter		
<b>Pathway:</b>	Membrane Transporter/Ion Channel		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



## SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (219.50 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.1950 mL	10.9750 mL	21.9500 mL
		5 mM	0.4390 mL	2.1950 mL	4.3900 mL
10 mM		0.2195 mL	1.0975 mL	2.1950 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: 2.5 mg/mL (5.49 mM); Clear solution; Need ultrasonic				
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: 2.5 mg/mL (5.49 mM); Clear solution; Need ultrasonic				

## BIOLOGICAL ACTIVITY

<b>Description</b>	UT-B-IN-1 (UTBINH-14) is a reversible, competitive and selective urea transporter-B (UT-B) inhibitor with IC <sub>50</sub> values of 10 and 25 nM for human and mouse UT-B, respectively. UT-B-IN-1 shows low toxicity and high selectivity for UT-B over UT-A isoforms. UT-B-IN-1 increases urine output and reduces urine osmolality of mice. UT-B-IN-1 can be used for diuretic mechanism research <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	IC <sub>50</sub> : 10 nM (human UT-B); 25 nM (mouse UT-B) <sup>[1]</sup>
<b>In Vitro</b>	UT-B-IN-1 (1-1000 nM) inhibits urea efflux in erythrocytes preloaded with urea with an IC <sub>50</sub> value of 26.7 nM <sup>[1]</sup> . UT-B-IN-1 inhibits water transport in AQP1-null erythrocytes <sup>[1]</sup> . UT-B-IN-1 (0-10 μM;24 h) shows no cytotoxicity to MDCK cells <sup>[1]</sup> .

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

Cell Cytotoxicity Assay<sup>[1]</sup>

Cell Line:	Madin-Darby canine kidney (MDCK) cell line
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Concentration:	0-10 $\mu$ M
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Incubation Time:	24 hours
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Result:	Exhibited no cytotoxic effect to MDCK cells.
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**In Vivo**

UT-B-IN-1 (300  $\mu$ g; i.p., once) increases urine output and reduces urine osmolality in mice with free access to water and food [1].

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

Animal Model:	Male mice (wild-type or UT-B knockout) <sup>[1]</sup>
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Dosage:	300 $\mu$ g
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Administration:	Intraperitoneal injection, 300 $\mu$ g, once
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Result:	Reduced urine osmolality and urea concentration in wild-type mice with V2-receptor agonist dDAVP injection. Increased urine volume and reduced urine osmolality and urea concentration in mice with free access to food and water but without dDAVP.
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## REFERENCES

[1]. Yao C, et al. Triazolothienopyrimidine inhibitors of urea transporter UT-B reduce urine concentration. J Am Soc Nephrol. 2012 Jul;23(7):1210-20.

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

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