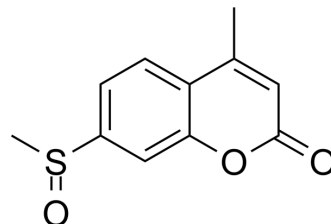


## Msr-blue

<b>Cat. No.:</b>	HY-D1256
<b>CAS No.:</b>	2966537-39-1
<b>Molecular Formula:</b>	C <sub>11</sub> H <sub>10</sub> O <sub>3</sub> S
<b>Molecular Weight:</b>	222.26
<b>Target:</b>	Fluorescent Dye
<b>Pathway:</b>	Others
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 25 mg/mL (112.48 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		1 mM	4.4992 mL	22.4962 mL	44.9924 mL
		5 mM	0.8998 mL	4.4992 mL	8.9985 mL
	10 mM	0.4499 mL	2.2496 mL	4.4992 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 (11.25 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (11.25 mM); Suspended solution; Need ultrasonic				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (11.25 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Msr-blue is a first turn-on fluorescent probe for methionine sulfoxide reductase with a more than 100-fold fluorescence increment. Msr-blue is used for monitoring the enzyme activity in live cells ( $\lambda_{ex}$ =340 nm, $\lambda_{em}$ =440 nm) <sup>[1]</sup> .
<b>In Vitro</b>	Msr-blue is emitted blue fluorescence after activation by methionine sulfoxide reductase A (Msr A). Msr-blue responded to Msr A in both a time- and dose-dependent manner, and more than a 100-fold increase in the emission is observed. Msr-blue is converted to its corresponding sulfide (15') under catalysis by either the purified Msr A or a cell lysate <sup>[1]</sup> . The 6-OHDA-treated PC12 cells as a cellular model of Parkinson's disease (PD) is employed and applied Msr-blue to probe the function of Msrs in the cells. With the aid of Msr-blue, a decline of the Msr activity in a PD model was disclosed for the first time <sup>[1]</sup> .

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

## REFERENCES

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[1]. Liangwei Zhang, et al. A specific fluorescent probe reveals compromised activity of methionine sulfoxide reductases in Parkinson's disease. Chem Sci. 2017 Apr 1;8(4):2966-2972.

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

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