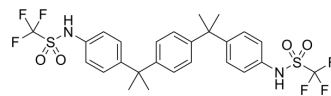


## PTP Inhibitor IV

<b>Cat. No.:</b>	HY-112478		
<b>CAS No.:</b>	329317-98-8		
<b>Molecular Formula:</b>	C <sub>26</sub> H <sub>26</sub> F <sub>6</sub> N <sub>2</sub> O <sub>4</sub> S <sub>2</sub>		
<b>Molecular Weight:</b>	608.62		
<b>Target:</b>	Phosphatase; SHP2		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Protein Tyrosine Kinase/RTK		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 250 mg/mL (410.77 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
<b>1 mM</b>	1.6431 mL	8.2153 mL	16.4306 mL
<b>5 mM</b>	0.3286 mL	1.6431 mL	3.2861 mL
<b>10 mM</b>	0.1643 mL	0.8215 mL	1.6431 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

PTP Inhibitor IV is a protein tyrosine phosphatase (PTP) inhibitor that competitively inhibits DUSP14 phosphatase activity with an  $IC_{50}$  of 5.21  $\mu$ M<sup>[1]</sup>. PTP Inhibitor IV inhibits SHP-2, PTP1B, PTP- $\epsilon$ , PTP Meg-2, PTP- $\sigma$ , PTP- $\beta$ , and PTP- $\mu$  with  $IC_{50}$ s of 1.8  $\mu$ M, 2.5  $\mu$ M, 8.4  $\mu$ M, 13  $\mu$ M, 20  $\mu$ M, 6.4  $\mu$ M, and 6.7  $\mu$ M, respectively<sup>[2]</sup>.

#### IC<sub>50</sub> & Target

IC<sub>50</sub>: 1.8  $\mu$ M (SHP-2), 2.5  $\mu$ M (PTP1B), 8.4  $\mu$ M (PTP- $\epsilon$ ), 13  $\mu$ M (PTP Meg-2), 20  $\mu$ M (PTP- $\sigma$ ), 6.4  $\mu$ M (PTP- $\beta$ ), and 6.7  $\mu$ M (PTP- $\mu$ )<sup>[2]</sup>; 5.21  $\mu$ M (DUSP14)<sup>[1]</sup>

#### In Vitro

PTP Inhibitor IV down-regulates the catalytic activity of DUSP14 by binding in the catalytic site<sup>[1]</sup>. PTP Inhibitor IV (0-100  $\mu$ M; 3 hours) effectively and specifically inhibits DUSP14-mediated dephosphorylation of JNK<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis<sup>[1]</sup>

Cell Line:	HEK 293 cells
Concentration:	0, 10 $\mu$ M, 50 $\mu$ M, or 100 $\mu$ M

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Incubation Time:	3 hours
Result:	Effectively penetrated the cells and inhibited DUSP14 activity.

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## REFERENCES

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- [1]. Jae Eun Park, et al. PTP inhibitor IV protects JNK kinase activity by inhibiting dual-specificity phosphatase 14 (DUSP14). *Biochem Biophys Res Commun*. 2009 Oct 2;387(4):795-9.
- [2]. Ping Huang, et al. Structure-based design and discovery of novel inhibitors of protein tyrosine phosphatases. *Bioorg Med Chem*. 2003 Apr 17;11(8):1835-49.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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