



# SZABO SCANDIC

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Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

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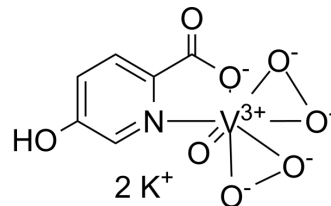
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## BpV(HOPic)

Cat. No.:	HY-128693
CAS No.:	722494-26-0
Molecular Formula:	C <sub>6</sub> H <sub>4</sub> K <sub>2</sub> NO <sub>8</sub> V
Molecular Weight:	347.24
Target:	PTEN
Pathway:	PI3K/Akt/mTOR
Storage:	-20°C, sealed storage, away from moisture * The compound is unstable in solutions, freshly prepared is recommended.



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 50 mg/mL (143.99 mM; ultrasonic and warming and heat to 60°C)  
DMSO : 2.89 mg/mL (8.32 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.8799 mL	14.3993 mL	28.7985 mL
	5 mM	0.5760 mL	2.8799 mL	5.7597 mL
	10 mM	0.2880 mL	1.4399 mL	2.8799 mL

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

### BIOLOGICAL ACTIVITY

#### Description

BpV(HOPic) is a potent and selective inhibitor of PTEN with an IC<sub>50</sub> of 14 nM. Nanocarrier-BpV(HOPic) has neuroprotective activity<sup>[1][2]</sup>.

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

IC<sub>50</sub>: 14 nM (PTEN)<sup>[1]</sup>

#### In Vitro

BpV(HOPic) (1 μM) treatment increases cell proliferation and decreases apoptotic rate in MG63 cells received Cisplatin treatment<sup>[3]</sup>.  
BpV(HOPic) (1 μM) enhances migration of C2C12 myoblasts and is associated with activation of PI3K/AKT and MAPK/ERK signalling pathways<sup>[4]</sup>.  
BpV(HOPic) (1 μM; 48 hours) promotes the initiation of swine follicle growth and development, similar as in rodent species and humans<sup>[5]</sup>.  
Nanocarrier-BpV(HOPic) enhances axonal outgrowth of neurons<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

BpV(HOPic) (0.05 mg/kg; i.p.) at reperfusion ameliorates liver ischemia/reperfusion (I/R) injury in vivo<sup>[6]</sup>.  
BpV(HOPic) (200 μg/kg; i.p.) exacerbates renal dysfunction and promotes tubular damage in mice with ischemia/reperfusion

injury (IRI)<sup>[7]</sup>.

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

Animal Model:	Male Wistar rats are subjected to partial hepatic ischemia <sup>[6]</sup>
Dosage:	0.05 mg/kg
Administration:	I.p. injections at the start of reperfusion
Result:	Ameliorated reoxygenation injury and reproduced the hepatoprotective effects obtained by adenosine A2A receptor stimulation.

Animal Model:	Male C57BL/6 mice (8-12 weeks old; 20-30 g ) are subjected to renal ischemia <sup>[7]</sup>
Dosage:	200 µg/kg
Administration:	I.p. injections 1 h before ischemia and then administers every 6 h after ischemia for 24 hr
Result:	Raised the level of serum creatinine and blood serum urea nitrogen.

## CUSTOMER VALIDATION

- Cancer Cell Int. 2021 Dec 19;21(1):689.
- Biochem Biophys Res Commun. 17 August 2022.

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## REFERENCES

- [1]. Schmid AC, et, al. Bisperoxovanadium compounds are potent PTEN inhibitors. FEBS Lett. 2004 May 21; 566(1-3): 35-8.
- [2]. Zhang B, et, al. Silencing of miR-19a-3p enhances osteosarcoma cells chemosensitivity by elevating the expression of tumor suppressor PTEN. Oncol Lett. 2019 Jan; 17(1): 414-421.
- [3]. Dimchev GA, et, al. Phospho-tyrosine phosphatase inhibitor Bpv(Hopic) enhances C2C12 myoblast migration in vitro. Requirement of PI3K/AKT and MAPK/ERK pathways. J Muscle Res Cell Motil. 2013 May; 34(2): 125-36.
- [4]. Raffel N, et, al. The effect of bpV(HOPic) on in vitro activation of primordial follicles in cultured swine ovarian cortical strips. Reprod Domest Anim. 2019 Aug; 54(8): 1057-1063.
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- [6]. Zhou J, et, al. Pharmacological Inhibition of PTEN Aggravates Acute Kidney Injury. Sci Rep. 2017 Aug 25; 7(1): 9503.
- [7]. Kim MS, et, al. Nanotherapeutics of PTEN Inhibitor with Mesoporous Silica Nanocarrier Effective for Axonal Outgrowth of Adult Neurons. ACS Appl Mater Interfaces. 2016 Jul 27; 8(29): 18741-53.

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

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