

Aviptadil

Cat. No.:	HY-P0012		
CAS No.:	40077-57-4		
Molecular Formula:	C ₁₄₇ H ₂₃₈ N ₄₄ O ₄₂ S		
Molecular Weight:	3325.8		
Sequence Shortening:	HSDAVFTDNYTRLRKQMAVKKYLSILN-NH ₂		
Target:	SARS-CoV		
Pathway:	Anti-infection		
Storage:	Powder	-80°C	2 years
		-20°C	1 year
	In solvent	-80°C	6 months
		-20°C	1 month

HSDAVFTDNYTRLRKQMAVKKYLSILN-NH₂

SOLVENT & SOLUBILITY

In Vitro

H₂O : 33.33 mg/mL (10.02 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
	Concentration	Mass		
1 mM		0.3007 mL	1.5034 mL	3.0068 mL
5 mM		0.0601 mL	0.3007 mL	0.6014 mL
10 mM		0.0301 mL	0.1503 mL	0.3007 mL

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

BIOLOGICAL ACTIVITY

Description

Aviptadil is an analog vasoactive intestinal polypeptide (VIP) with potent vasodilatory effects. Aviptadil induces pulmonary vasodilation and inhibits vascular SMCs proliferation, platelet aggregation. Aviptadil can be used for the research of pulmonary fibrosis, pulmonary arterial hypertension (PAH) and SARS-CoV-2 caused respiratory failure, et al^{[1][2]}.

In Vitro

Aviptadil inhibits the basal proliferation of pulmonary arterial smooth muscle cells (PASMC) and the mobilization of intracellular free calcium concentration in these cells in a dose-dependent manner^[3]. Aviptadil (1 nM-10 μM) produces a concentration-dependent inhibition of CSE-induced cell death in L2 cells. At 10 μM, Aviptadil reduces CSE-stimulated MMP activity and caspase-3 activation in L2 cells^[3]. Aviptadil (10 nM-100 μM) attenuates lipopolisaccharide (LPS)-induced MMP-9 activity and its expression by alveolar macrophages (AM) in rats^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Aviptadil (1, 3 and 10 mg/kg; intravenous bolus injection) is injected into a tail vein. No-effect dose level is 1 mg/kg. Dose level with first intolerance reactions 3 mg/kg, Lowest lethal dose level is >10 mg/kg. i.v. LD₅₀ of Aviptadil is >10 mg/kg in

males, females and male and female combined after 24 hours and 14 days^[3].

Aviptadil (intravenous bolus injection) at 3 mg causes slightly reduced motility, slight ataxia and slight dyspnoea in all 5 male and 5 female animals 15 to 30 minutes after administration. At 10 mg, Aviptadil reveals slightly reduced motility, slight ataxia, and slight dyspnoea 15 to 60 minutes and slightly reduces muscle tone 15 to 30 minutes after administration, respectively, in all male and female animals^[3].

Nose-only inhalation exposure of CD1 mice to aerosolized.

Aviptadil at a dose of 1546 µg/kg/day is well tolerated and produces no apparent changes in any of the parameters evaluated. No changes are observed after a single dose administration as high as 3920 µg/kg/day. The no-observable-adverse-effect level (NOAEL) is considered to be at least 3920 µg/kg/day for an acute exposure and 1546 µg/kg/day for a 10 day repeated exposure^[1].

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CUSTOMER VALIDATION

- Nucleic Acids Res. 2021 Jan 8;49(D1):D1113-D1121.

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REFERENCES

- [1]. Intravenous Aviptadil for Critical COVID-19 With Respiratory Failure (COVID-AIV)
- [2]. Jian Hu, et al. Novel Targets of Drug Treatment for Pulmonary Hypertension. Am J Cardiovasc Drugs
- [3]. INVESTIGATOR'S BROCHURE Sponsor: NeuroRx, Inc
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Caution: Product has not been fully validated for medical applications. For research use only.

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