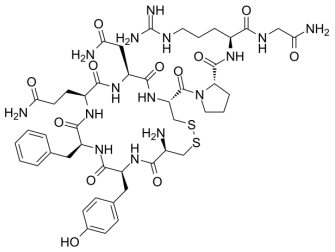
Vasopressin

Cat. No.:	HY-B1811
CAS No.:	11000-17-2
Molecular Formula:	$C_{46}H_{65}N_{15}O_{12}S_2$
Molecular Weight:	1084.23
Sequence:	Cys-Tyr-Phe-Gln-Asn-Cys-Pro-Arg-Gly-NH2 (Disulfide bridge: Cys1-Cys6)
Sequence Shortening:	CYFQNCPRG-NH2 (Disulfide bridge: Cys1-Cys6)
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (92.23 mM; Need ultrasonic)

H_2O : 50 mg/mL (46.12 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.9223 mL	4.6116 mL	9.2231 mL
	5 mM	0.1845 mL	0.9223 mL	1.8446 mL
	10 mM	0.0922 mL	0.4612 mL	0.9223 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (23.06 mM); Clear solution; Need ultrasonic and warming
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (2.31 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.31 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.31 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Vasopressin is a cyclic nonapeptide that is synthesized centrally in the hypothalamus. Vasopressin participates in the hypothalamic-pituitary-adrenal axis, and regulates pituitary corticotropin secretion by potentiating the stimulatory effects

	of corticotropin releasing factor. Vasopressin also can act as a neurotransmitter, exerting its action by binding to specific G protein-coupled receptors[1][2][3].
IC_{50} & Target	Human Endogenous Metabolite
In Vitro	AVP (0.01 nM-1 μM) induces Ca^{2+} increase in Chinese hamster ovary cells expressing rat or human V_{1b} receptors[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Vasopressin (0.03-0.3 μg/kg; i.p.) potentiates corticotropin release provoked by exogenous corticoliberin and increases corticotropin secretion subsequent to body water loss[2]. Vasopressin (0.001-0.1 mg/kg; i.p.) potently increases adjacent lying, where rats meeting for the first time lie passively next to each other[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Eur J Pharmacol. 10 September 2022, 175262.
- Endocrinology. 2023 Jan 9;164(3):bqac217.
- Endocrinology. 2023.
- SSRN. 2023 May 30.

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REFERENCES

[1]. Baribeau DA, et, al. Oxytocin and vasopressin: linking pituitary neuropeptides and their receptors to social neurocircuits. Front Neurosci. 2015 Sep 24;9:335.

[2]. Ramos L, et, al. Acute prosocial effects of oxytocin and vasopressin when given alone or in combination with 3,4-methylenedioxymethamphetamine in rats: involvement of the V1A receptor. Neuropsychopharmacology. 2013 Oct;38(11):2249-59.

[3]. Gal CSL, et, al. Characterization of (2S,4R)-1-[5-chloro-1-[(2,4-dimethoxyphenyl)sulfonyl]-3-(2-methoxy-phenyl)-2-oxo-2,3-dihydro-1H-indol-3-yl]-4-hydroxy-N,N-dimethyl-2-pyrrolidine carboxamide (SSR149415), a selective and orally active vasopressin V1b receptor antagonist. J Pharmacol Exp Ther. 2002 Mar;300(3):1122-30.

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