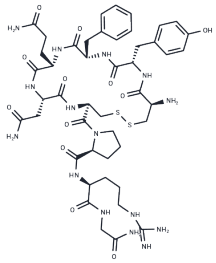
Data Sheet (Cat.No.T9857)

TargetMol

Vasopressin

Chemical Properties



CAS No. : 11000-17-2

Formula: C46H65N15O12S2

Molecular Weight: 1084.24

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Vasopressin (argipressin), a cyclic nine-peptide synthesized by hypothalamic neurons, is one of the hormones involved in peptide prohormone synthesis. Vasopressin is involved in the regulation process of hypothalamic-pituitary-adrenal axis, increasing the amount of solute free water reabsorbed from the renal tubule's colate back into the circulation, narrowing arteries to increase pressure, enhancing the stimulating effect of corticotropin releasing factor to regulate pituitary corticotropin secretion. Vasopressin acts as a neurotransmitter during nerve conduction by binding to specific G-protein-coupled receptors.
Targets(IC50)	Endogenous Metabolite
In vitro	AVP (0.01 nM-1 μM) induces Ca2+ elevation in Chinese hamster ovary cells expressing rat or human V1b receptors.[1]
In vivo	Vasopressin (0.03-0.3μg/kg; i.p.) enhances corticotropin release elicited by exogenous corticoliberin and amplifies corticotropin secretion following dehydration.[1] Vasopressin (0.001-0.1mg/kg; i.p.) significantly promotes proximity, wherein rats encountering each other for the first time exhibit passive side-by-side positioning.[2]

Solubility Information

Solubility	DMSO: 90 mg/mL (83.01 mM),Sonication is recommended. H2O: 45 mg/mL (41.5 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (3.04 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9223 mL	4.6115 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
50 mM	0.0184 mL	0.0922 mL	0.1845 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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;38 (11):2249-2259.
Serradeil-Le Gal C, 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;300(3):1122-1130.
Gizowski C, et al. Central and peripheral roles of vasopressin in the circadian defense of body hydration. Best Pract Res Clin Endocrinol Metab. 2017;31(6):535-546.
Caldwell HK,et al. Social Context, Stress, Neuropsychiatric Disorders, and the Vasopressin 1b Receptor. Front Neurosci. 2017;11:567.
Terranova JI, et al. Sex Differences in the Regulation of Offensive Aggression and Dominance by Arginine-Vasopressin. Front Endocrinol (Lausanne). 2017;8:308.