



上海源叶生物科技有限公司
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产品名称:

TRP-TYR-LYS-HIS-VAL-ALA-SER-PRO-ARG-TYR-HIS-THR-VAL-GLY-ARG-ALA-ALA-GLY-LEU-LEU-MET-GLY-LEU

产品别名: **Neuropeptide W-23(human) ; NPW-23; 神经肽 W-23 (人)**

生物活性:		
Description	Neuropeptide W-23(human), the active form of Neuropeptide W, is an endogenous ligand for NPBW1 and NPBW2.	
In Vitro	NPW-23 increases the $I_{Ca,L}$ in transfected human embryonic kidney 293 cells and VSMCs via GPR7. NPW-23 increases the expression of pan phospho-PKC, intracellular diacylglycerol level, and the second messenger catalyzed by PLC[1].	
In Vivo	NPW-23 increases pressure-induced vasotone of the rat mesenteric arteries. Importantly, the expression of NPW is decreased in the hypertensive rats[1]. NPW-23 (0.3 nmol, 1.0 nmol, and 3.0 nmol) induces significant increases in mean arterial pressure (MAP) in conscious, freely moving male rats. Rats that receive either 1.0 or 3.0 nmol NPW-23 demonstrate a significant increase in total activity, ambulatory activity, and duration of stereotypy. NPW-23 fails to elevate MAP in rats pretreated with phentolamine. NPW-23-induced increases in total activity, ambulatory activity, and duration of stereotypy are reduced significantly by pretreatment with the orexin type 1 receptor (OX1R) antagonist, SB-408124[2].	
Solvent&Solubility	In Vitro: H2O Peptide Solubility and Storage Guidelines: 1. Calculate the length of the peptide. 2. Calculate the overall charge of the entire peptide according to the following table:	
	Contents	Assign value
	Acidic amino acid	Asp (D), Glu (E), and the C-terminal -COOH.
	Basic amino acid	Arg (R), Lys (K), His (H), and the N-terminal -NH ₂
	Neutral amino acid	Gly (G), Ala (A), Leu (L), Ile (I), Val (V), Cys (C), Met (M), Thr (T), Ser (S), Phe (F), Tyr (Y), Trp (W), Pro (P), Asn (N), Gln (Q)
	3. Recommended solution:	
	Overall charge of peptide	Details
	Negative (<0)	1. Try to dissolve the peptide in water first. 2. If water fails, add NH ₄ OH (<50 μL). 3. If the peptide still does not dissolve, add DMSO (50-100 μL) to solubilize the peptide.
	Positive (>0)	1. Try to dissolve the peptide in water first. 2. If water fails, try dissolving the peptide in a 10%-30% acetic acid solution. 3. If the peptide still does not dissolve, try dissolving the peptide in a small amount of DMSO.



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	Zero (=0)	1. Try to dissolve the peptide in organic solvent (acetonitrile, methanol, etc.) first. 2. For very hydrophobic peptides, try dissolving the peptide in a small amount of DMSO, and then dilute the solution with water to the desired concentration.
References	[1]. Ji L, et al. Modulation of CaV1.2 calcium channel by neuropeptide W regulates vascular myogenic tone via G protein-coupled receptor 7. J Hypertens. 2015 Dec;33(12):2431-42. [2]. Pate AT, et al. Neuropeptide W increases mean arterial pressure as a result of behavioral arousal. Am J Physiol Regul Integr Comp Physiol. 2013 Oct 1;305(7):R804-10.	
实验参考:		
Animal Administration	Cardiovascular experiments are conducted the day after carotid implantation. On the day of the experiment, animals are habituated to a quiet room for at least 2 h. The carotid cannula is flushed with heparinized saline (200 U/mL in 0.9% NaCl) and connected to a pressure transducer. Baseline MAP is recorded for at least 30 min at 1-min intervals. For all experiments, preinjection baseline is calculated as the average MAP for 10 min before intracerebroventricular injections of saline or NPW-23. To test the cardiovascular effects of centrally administered NPW-23, rats are treated intracerebroventricularly with vehicle or vehicle containing 0.3, 1.0, or 3.0 nmol NPW-23. MAP is recorded for at least 45 min at 1-min intervals. To determine the potential role of sympathetic activation in mediating NPW-induced MAP increase, rats are pretreated intra-arterially with the α-adrenergic antagonist phentolamine-HCl (10 mg/kg body wt in 0.9% NaCl) or saline 15 min before central injection of saline or saline containing 1.0 nmol NPW-23. In a final experiment, the OX1R antagonist, SB-408124, or vehicle is injected intracerebroventricularly 15 s prior to 1.0 nmol NPW-23, and MAP is monitored for 45 min at 1-min intervals. [2]	
References	[1]. Ji L, et al. Modulation of CaV1.2 calcium channel by neuropeptide W regulates vascular myogenic tone via G protein-coupled receptor 7. J Hypertens. 2015 Dec;33(12):2431-42. [2]. Pate AT, et al. Neuropeptide W increases mean arterial pressure as a result of behavioral arousal. Am J Physiol Regul Integr Comp Physiol. 2013 Oct 1;305(7):R804-10.	