PACAD(1.27) human aving

MedChemExpress

Product	Data	Sheet
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PACAP (1-27), human, ovine, rat

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Cat. No.:	HY-P0176	
CAS No.:	127317-03-7	
Molecular Formula:	C ₁₄₂ H ₂₂₄ N ₄₀ O ₃₉ S	
Molecular Weight:	3147.66	HSDGIFTDSYSRYRKQMAVKKYLAAVL-NH ₂
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

Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg
	1 mM	0.3177 mL	1.5885 mL	3.1770 mL
	5 mM	0.0635 mL	0.3177 mL	0.6354 mL
	10 mM	0.0318 mL	0.1588 mL	0.3177 mL

BIOLOGICAL ACTIVITY		
PACAP (1-27), human, ovine, rat (PACAP 1-27) is the N-terminal fragment of PACAP-38, and is a potent PACAP receptor antagonist with IC ₅₀ s of 3 nM, 2 nM and 5 nM for rat PAC1, rat VPAC1 and human VPAC2, respectively ^[1] .		
IC50: 3 nM (rat PAC1), 2 nM (rat VPAC1), 5 nM (human VPAC2) ^[1]		
Radioligand receptor binding assays with I-monoiodinated PACAP (1-27), human, ovine, rat confirms the presence of PAC - receptors on AR4-2J cells, since PACAP (1-27), human, ovine, rat and PACAP(1–38) equipotently displaces radioligand binding with a K _d of 1-2 nM, whereas vasoactive intestinal peptide (VIP) is 1000-fold less potent. PACAP (1-27), human, ovine, rat exhibits a distinct and much higher susceptibility to VIP-amino acid substitutions. PACAP (1-27), human, ovine, rat has potency and binding affinity to stimulate IP3 and cAMP formation in AR4-2J cells ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.		
The inhibitory effect of pituitary adenylate cyclase activating polypeptide (PACAP (1-27), human, ovine, rat) on the increase in total pulmonary resistance (RL) causes either by allergen or histamine in anaesthetized, ventilated guinea-pigs is studied. PACAP (1-27), human, ovine, rat given via i.v. infusion (0.045-4.5 nmol/kg/min) dose-dependently reduces the increase in RL caused by inhaled ovalbumin and histamine. At the highest dose, PACAP (1-27), human, ovine, rat prevented the increase in RL caused by ovalbumin and histamine completely. Infusion of PACAP (1-27), human, ovine, rat and the β2-adrenoceptor		

agonist, salbutamol (0.045-4.5 nmol/kg/min) inhibit the increase in RL similarly, but salbutamol increases the heart rate more than PACAP (1-27), human, ovine, rat^[3].

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

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PROTOCOL	
Animal Administration ^{[3][4]}	Guinea-pigs ^[3] PACAP-27 (0.045 to 4.5 nmol/kg/min), salbutamol (0.045 to 4.5 nmol/kg/min) or sterile saline is given i.v. (1.0 mL) via an infusion pump, starting 5 min before and continuing 10 min after airway challenge ^[3] .
	Dogs ^[4]
	Four dogs (28.4±1.8 kg) receive PACAP (1-27) with four different concentrations of 0.01, 0.1, 1.0 and 10 µg/mL, or 0.00318, 0.0318, 0.318 and 3.18 µM, respectively. Each solution is locally infused at a rate of 0.5 mL/min for precisely 1 min. A total dose delivered to the pancreas during each infusion is therefore 0.005, 0.05, 0.5 and 5 µg. The dead volume of the pancreatic arterial catheter (0.5 mL) is taken into account in relation to the infusion rate. After taking the initial control sample, simultaneously from the SPD vein and the aorta, saline is infused for 1 min and samples are obtained 1, 3 and 5 min after the onset of infusion. This procedure is repeated every 15 min for the doses of PACAP (1-27). The sample obtained at 15 min after the onset of each infusion served as control for the subsequent intervention ^[4] .

CUSTOMER VALIDATION

- Nature. 2024 Mar;627(8002):149-156.
- Cell Metab. 2022 Nov 11;S1550-4131(22)00490-9.

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

 Tel: 609-228-6898
 Fax: 609-228-5909
 E-mail: tech@MedChemExpress.com

 Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA