Bradykinin (1-5)

Cat. No.: HY-P1488

CAS No.: 23815-89-6

Molecular Formula: $C_{27}H_{40}N_8O_6$

Molecular Weight: 572.66

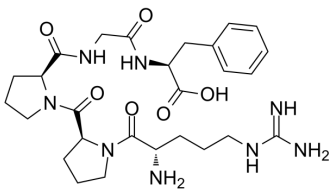
Sequence: Arg-Pro-Pro-Gly-Phe

Sequence Shortening: RPPGF

Target: Bradykinin Receptor

Pathway: GPCR/G Protein

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 (174.62 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7462 mL	8.7312 mL	17.4624 mL
	5 mM	0.3492 mL	1.7462 mL	3.4925 mL
	10 mM	0.1746 mL	0.8731 mL	1.7462 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.37 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.37 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bradykinin (1-5) is a major stable metabolite of Bradykinin, formed by the proteolytic action of angiotensin-converting enzyme (ACE).

In Vivo

Bradykinin is a short-lived vasoactive peptide, with a reported half-life in vivo of 17 s, that is rapidly metabolized in the circulation to Bradykinin (1-5). Bradykinin (1-5), the product of two sequential cleavages of Bradykinin by ACE at the Pro7-

Phe8 and Phe5-Ser6bonds, has been identified as the major stable metabolite of Bradykinin in vivo in human subjects, with a terminal half-life of minutes. Both Bradykinin and Bradykinin (1-5) inhibit α- and γ-thrombin-induced platelet aggregation (P<0.01 versus baseline). Bradykinin (1-5) inhibits γ-thrombin-induced platelet aggregation 50% at a calculated dose of 183±3 pmol/min. Neither Bradykinin nor Bradykinin (1-5) affects thrombin receptor-activating peptide-induced platelet aggregation, consistent with the hypothesis that Bradykinin and Bradykinin 1-5 inhibit thrombin-induced platelet aggregation by preventing cleavage of the thrombin receptor and liberation of thrombin receptor-activating peptide. Bradykinin (1-5) significantly attenuates α-thrombin-induced platelet aggregation but not TRAP 1-6-induced platelet aggregation. Bradykinin (1-5) potently inhibits γ-thrombin (500 nM)-induced platelet aggregation with an ED_{50} of 183±2 pmol/min[1].

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

REFERENCES

[1]. Murphey LJ, et al. Bradykinin and its metabolite Bradykinin 1-5 inhibit thrombin-induced platelet aggregation in humans. J Pharmacol Exp Ther. 2006 Sep;318(3):1287-92.

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