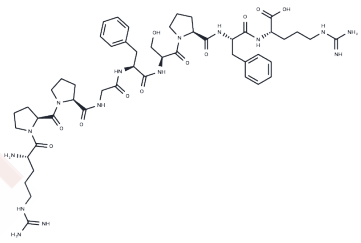
Data Sheet (Cat.No.TP1277)

TargetMol

Bradykinin

Chemical Properties



CAS No. : 58-82-2

Formula: C50H73N15O11

Molecular Weight: 1060.21

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	Bradykinin is an inflammatory mediator. It is a peptide that causes blood vessels to dilate (enlarge) via the release of prostacyclin, nitric oxide, and Endothelium-Derived Hyperpolarizing Factor. Bradykinin is a physiologically and pharmacologically active peptide of the kinin group of proteins, consisting of nine amino acids.
Targets(IC50)	Endogenous Metabolite,Bradykinin Receptor,Serine Protease
In vitro	Bradykinin is a potent vasodilator peptide that exerts its vasodilatory action through stimulation of specific endothelial B2 receptors, thereby causing the release of prostacyclin, NO, and EDHF[1]. Bradykinin has been reported to be involved in the progression of many types of cancer. Bradykinin treatment stimulates ERK1/2 activation and IL-6 production thereby contributing to the invasion and migration of colorectal cancer cells. [2]. Exogenous bradykinin markedly inhibits TF expression in mRNA and protein level induced by LPS in a dose-dependent manner. The NO synthase antagonist L-NAME and PI3K inhibitor LY294002 dramatically abolish the inhibitory effects of bradykinin on tissue factor expression[3].
In vivo	Application of 1 μM bradykinin to the ovary produces significant decreases in heart rate and mean arterial pressure. Application of 1 μM bradykinin to the ovary produces bradycardia and hypotension similar to the responses evoked when vagal innervation is intact in vagotomized animals[4]. Vascular bradykinin can improve pancreatic microcirculation and hemorheology in rats with severe acute pancreatitis. The pancreatic microcirculatory blood flow volume and velocity in the vascular bradykinin treatment group increases gradually after 48 h[5]. PI3K/Akt signaling pathway activation induced by bradykinin administration reduces the activity of GSK-3β and MAPK, and reduces NF-x03BA;B level in the nucleus, thereby inhibiting TF expression. Consistent with this, intraperitoneal injection of C57/BL6 mice with bradykinin also inhibits the thrombus formation induced by ligation of inferior vena cava[3].

Solubility Information

Solubility	DMSO: 10 mM,Sonication is recommended. H2O: 100 mg/mL (94.32 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9432 mL	4.716 mL	9.4321 mL
5 mM	0.1886 mL	0.9432 mL	1.8864 mL
10 mM	0.0943 mL	0.4716 mL	0.9432 mL
50 mM	0.0189 mL	0.0943 mL	0.1886 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

Hornig B, et al. Role of bradykinin in mediating vascular effects of angiotensin-converting enzyme inhibitors inhumans. Circulation. 1997 Mar 4;95(5):1115-8.
Zhang Y, Zhang X, Li Z, et al.Single particle tracking reveals SARS-CoV-2 regulating and utilizing dynamic filopodia for viral invasion.Science Bulletin.2023
Zhao S, Xu Q, Cui Y, et al.Salmonella effector SopB reorganizes cytoskeletal vimentin to maintain replication vacuoles for efficient infection.Nature Communications.2023, 14(1): 478.
Niezen L E, Sasaki T, Sadriaj D, et al.Detailed analysis of the effective and intra-particle diffusion coefficient of proteins at elevated pressure in columns packed with wide-pore core-shell particles.Journal of Chromatography A. 2023: 464538.