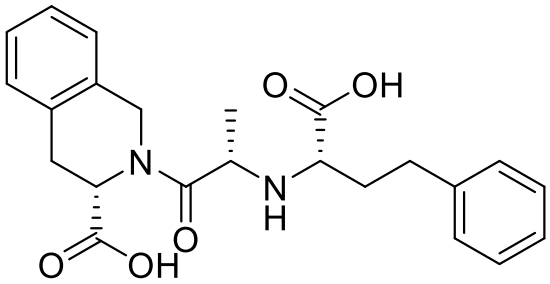
Product data sheet

MedKoo Cat#: 564690 Name: Quinaprilat CAS#: 82768-85-2 Chemical Formula: $C_{23}H_{26}N_2O_5$ Exact Mass: 410.1842 Molecular Weight: 410.4700	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C > 4 years
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Quinaprilat is an angiotensin converting enzyme inhibitor. It is a metabolite of Quinapril.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	TBD	TBD
Methanol	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.44 mL	12.18 mL	24.36 mL
5 mM	0.49 mL	2.44 mL	4.87 mL
10 mM	0.24 mL	1.22 mL	2.44 mL
50 mM	0.05 mL	0.24 mL	0.49 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Wojewodzka-Zelezniakowicz M, Gromotowicz-Poplawska A, Kisiel W, Konarzewska E, Szemraj J, Ladny JR, Chabielska E. Angiotensin-converting enzyme inhibitors attenuate propofol-induced pro-oxidative and antifibrinolytic effect in human endothelial cells. J Renin Angiotensin Aldosterone Syst. 2017 Jan;18(1):1470320316687197. doi: 10.1177/1470320316687197. PMID: 28090801; PMCID: PMC5843862.
2. Knütter I, Wollesky C, Kottra G, Hahn MG, Fischer W, Zebisch K, Neubert RH, Daniel H, Brandsch M. Transport of angiotensin-converting enzyme inhibitors by H+/peptide transporters revisited. J Pharmacol Exp Ther. 2008 Nov;327(2):432-41. doi: 10.1124/jpet.108.143339. Epub 2008 Aug 19. PMID: 18713951.

In vivo study

1. Davis JL, Kruger K, LaFevers DH, Barlow BM, Schirmer JM, Breuhaus BA. Effects of quinapril on angiotensin converting enzyme and plasma renin activity as well as pharmacokinetic parameters of quinapril and its active metabolite, quinaprilat, after intravenous and oral administration to mature horses. Equine Vet J. 2014 Nov;46(6):729-33. doi: 10.1111/evj.12206. Epub 2014 Jan 7. PMID: 24175935.
2. van Beusekom HM, Ferrero V, Ribichini F, van der Giessen WJ. Quinaprilat-eluting stents do not attenuate intimal thickening following stenting in porcine coronary arteries. Atherosclerosis. 2009 Jul;205(1):120-5. doi: 10.1016/j.atherosclerosis.2008.11.029. Epub 2008 Dec 6. PMID: 19135197.

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7. Bioactivity

Biological target:

Quinaprilat is a dicarboxylic acid resulting from the hydrolysis of the ethyl ester group of quinapril to give the corresponding dicarboxylic acid. The active angiotensin-converting enzyme inhibitor (ACE inhibitor) of the prodrug quinapril. It has a role as an EC 3.4.15.1 (peptidyl-dipeptidase A) inhibitor, an antihypertensive agent and a vasodilator agent. It is a dicarboxylic acid, a member of isoquinolines and a tertiary carboxamide.

In vitro activity

This study examined the effects of propofol (50 μM), quinaprilat and enalaprilat (10^{-5} M) on fibrinolysis, oxidative stress parameters, and nitric oxide bioavailability in human umbilical vein endothelial cells (HUVECs). These findings suggest that the studied angiotensin-converting enzyme inhibitors exerted protective effects against endothelial cell dysfunction caused by propofol, independently of hemodynamics.

Reference: J Renin Angiotensin Aldosterone Syst. 2017 Jan;18(1):1470320316687197. https://pubmed.ncbi.nlm.nih.gov/28090801/

In vivo activity

Angiotensin converting enzyme (ACE) inhibitors, including quinapril, improve survival and quality of life in human patients and small animals with cardiovascular and renal disease. There is limited information regarding their effects in healthy, mature horses. Quinaprilat was detected in all horses following oral administration of quinapril; however, it was below the limit of quantification of the assay for most horses in the 120 mg dosing group. These results suggest that quinapril has sufficient oral absorption to produce inhibition of ACE in healthy horses. provides a potential treatment for horses with cardiovascular and renal disease.

Reference: Equine Vet J. 2014 Nov;46(6):729-33. https://pubmed.ncbi.nlm.nih.gov/24175935/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.