Product Information



Furin Inhibitor I

Item No. 14965

CAS Registry No.:	150113-99-8	H ₂ N	
Formal Name:	N ² -(1-oxodecyl)-L-arginyl-L-valyl-N-	Ť	NH ₂
	[(1S)-4-[(aminoiminomethyl)amino]-1-	, N	
	(2-chloroacetyl)butyl]-L-lysinamide	Ή	
Synonym:	Decanoyl-Arg-Val-Lys-Arg-CMK	Ĺ	
MF:	$C_{34}H_{66}CIN_{11}O_5$		н о н мн
FW:	744.4	, ∐ ,	
Purity:	≥95%		N NH2
Stability:	≥2 years at -20°C	H Ö	
Supplied as:	A crystalline solid	\sim	

Laboratory Procedures

For long term storage, we suggest that furin inhibitor I be stored as supplied at -20°C. It should be stable for at least two years.

Furin inhibitor I is supplied as a crystalline solid. A stock solution may be made by dissolving the furin inhibitor I in the solvent of choice. Furin inhibitor I is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of furin inhibitor I in these solvents is approximately 33 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of furin inhibitor I can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of furin inhibitor I in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Furin is a proprotein convertase, converting precursor proteins to functional proteins within the Golgi/trans-Golgi secretory pathway. Furin inhibitor I is a selective, irreversible, and cell-permeable competitive inhibitor of proprotein convertases, including furin/SPC1 (K_i = ~1 nM), SPC2/PC2 (K_i = 0.36 nM), SPC3/PC1/PC3 (K_i = 2.0 nM), SPC4/ PACE4 (K_i = 3.6 nM), SPC6/PC5/PC6, and SPC7/LPC/PC7/PC8 (K_i = 0.12 nM).¹⁻² Because furin activates viral glycoproteins, this inhibitor is a useful antiviral agent.³ In addition, it inhibits furin-dependent pro-MMP-2 activation in mononuclear inflammatory cells.4

References

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- 3. Wanyiri, J.W., O'Connor, R., Allison, G., et al. Proteolytic processing of the Cryptosporidium glycoprotein gp40/15 by human furin and by a parasite-derived furin-like protease activity. Infect. Immun. 75(1), 184-192 (2007).
- Stawowy, P., Meyborg, H., Stibenz, D., et al. Furin-like proprotein convertases are central regulators of the membrane 4. type matrix metalloproteinase-pro-matrix metalloproteinase-2 proteolytic cascade in atherosclerosis. Circulation 111(21), 2820-2827 (2005).

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