Product Data Sheet

Product Name: N-Acetyl lysyltyrosylcysteine amide
Cat. No.: GC60263

Chemical Properties

Cas. No.	1287585-40-3		
SMILES	SC[C@@H](C(N)=O)NC([C@H](CC1=CC=C(O)C=C1)NC([C@H](CCCCN)NC(C)=O)=O)=O		
Formula	$C_{20}H_{31}N_5O_5S$	M.Wt	453.56
Solubility	H_2O : 125 mg/mL (275.60 mM; Need ultrasonic)	Storage	-20°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

N-Acetyl lysyltyrosylcysteine amide is a potent, reversible, specific, and non-toxic tripeptide inhibitor of myeloperoxidase (MPO). N-Acetyl lysyltyrosylcysteine amide effectively inhibits MPO generation of toxic oxidants in vivo. N-Acetyl lysyltyrosylcysteine amide reduces neuronal damage and preserves brain tissue and neurological function in the stroked brain. N-Acetyl lysyltyrosylcysteine amide inhibits MPO-dependent hypochlorous acid (HOCl) generation, protein nitration, and LDL oxidation[1][2].

N-Acetyl lysyltyrosylcysteine amide (KYC) significantly decreases infarct size, blood-brain barrier leakage, infiltration of myeloid cells, loss of neurons, and apoptosis in the brains of middle cerebral artery occlusion (MCAO) mice[1].N-Acetyl lysyltyrosylcysteine amide (10 mg/kg; i.p.; daily for 3-7 days) significantly reduces neurological severity scores and infarct size in MCAO mice[1].N-Acetyl lysyltyrosylcysteine amide (10 mg/kg; i.p.; daily 7 days) significantly protects BBB function and decreased neutrophil infiltration. N-Acetyl lysyltyrosylcysteine amide (10 mg/kg; i.p.; daily 7 days) significantly reduces microglia/macrophage activation and neuron loss in MCAO mice. N-Acetyl

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lysyltyrosylcysteine amide (10 mg/kg; i.p.; daily for 3-7 days) decreases apoptosis and cell injury in the brains of MCAO mice. N-Acetyl lysyltyrosylcysteine amide reduced MPO in the brains of MCAO mice. N-Acetyl lysyltyrosylcysteine amide reduces NO2Tyr and 4-HNE in MCAO mice[1]. Animal Model: 8-10 weeks old C57BL/6J mice (middle cerebral artery occlusion (MCAO) mode)[1]

[1]. Yu G, et al. Inhibition of myeloperoxidase oxidant production by N-acetyl lysyltyrosylcysteine amide reduces brain damage in a murine model of stroke [published correction appears in J Neuroinflammation. 2016;13(1):166]. J Neuroinflammation. 2016;13(1):119. Published 2016 May 24. [2]. Zhang H, et al. N-acetyl lysyltyrosylcysteine amide inhibits myeloperoxidase, a novel tripeptide inhibitor. J Lipid Res. 2013;54(11):3016-3029.