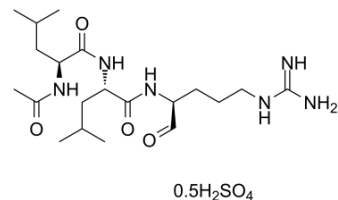


Leupeptin hemisulfate

Cat. No.:	HY-18234A	
CAS No.:	103476-89-7	
Molecular Formula:	C ₂₀ H ₃₈ N ₆ O ₄ · 1/2H ₂ SO ₄	
Molecular Weight:	475.59	
Sequence:	Ac-Leu-Leu-Arg-CHO	
Sequence Shortening:	Ac-LLR-CHO	
Target:	Cathepsin	
Pathway:	Metabolic Enzyme/Protease	
Storage:	Powder	-80°C 2 years
		-20°C 1 year
	In solvent	-80°C 6 months
		-20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 19 mg/mL (39.95 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.1027 mL	10.5133 mL	21.0265 mL
	5 mM	0.4205 mL	2.1027 mL	4.2053 mL
	10 mM	0.2103 mL	1.0513 mL	2.1027 mL

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

BIOLOGICAL ACTIVITY

Description

Leupeptin hemisulfate is a membrane-permeable thiol protease inhibitor that inhibits Cathepsin B, Cathepsin H and Cathepsin L, and also impairs amphisome-lysosome fusion^[1]. Leupeptin hemisulfate also exhibits anti-inflammatory effect^[2].

IC₅₀ & Target

Cathepsin^[1]

In Vivo

Leupeptin (0-36 mg/kg; intraperitoneal injection; for 4 hours; C57BL/6Ncrl male mice) is well tolerated by the animals and produces a strong, dose-dependent increase in LC3b-II in both the total tissue extracts and the lysosome and autophagosome-enriched pellet fraction^[2].

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

Animal Model:	C57BL/6NCrI male mice (6-8 weeks old, 20-25 g) ^[2]
Dosage:	0 mg/kg, 9 mg/kg, 18 mg/kg, 36 mg/kg
Administration:	Intraperitoneal injection; for 4 hours
Result:	Promoted the accumulation of LC3b-II in mouse liver.

CUSTOMER VALIDATION

- Sci Adv. 2021 Jan 1;7(1):eabe1340.
- Autophagy. 2020 Aug 2;1-16.
- Autophagy. 2020 May 20;1-22.
- Antiviral Res. 2020 Oct;182:104922.
- Int J Oncol. 2019 Jul;55(1):331-339.

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REFERENCES

- [1]. Haspel J, et al. Characterization of macroautophagic flux in vivo using a leupeptin-based assay. Autophagy. 2011 Jun;7(6):629-42.
- [2]. Aoyagi T, et al. Biological activities of leupeptins. J Antibiot (Tokyo). 1969 Nov;22(11):558-68.

Caution: Product has not been fully validated for medical applications. For research use only.

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