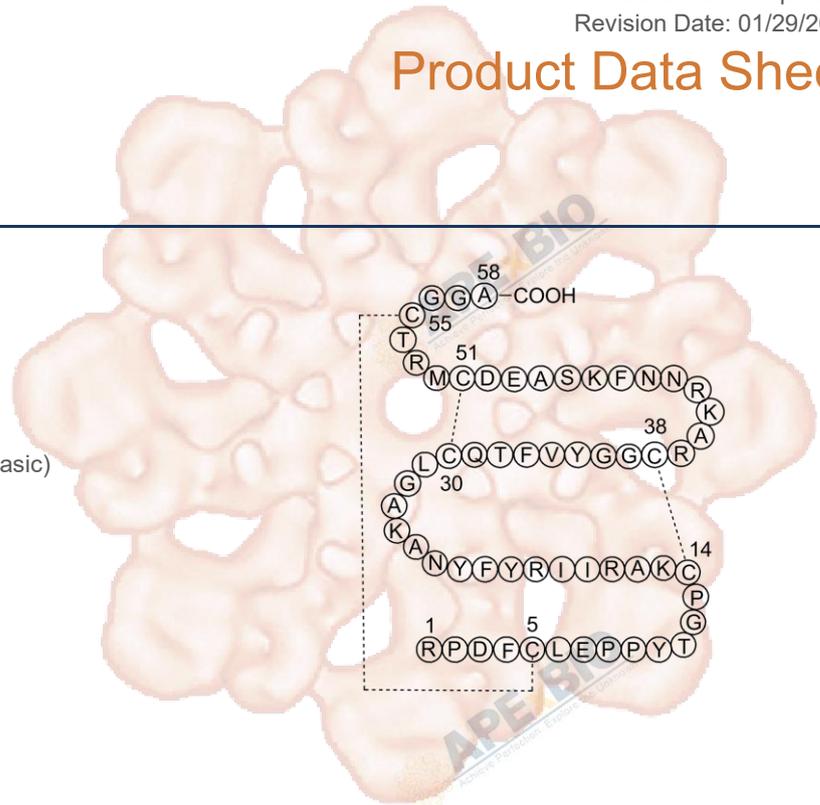


Product Data Sheet

Aprotinin

Cat. No.:	A2574
CAS No.:	9087-70-1
Formula:	C284H432N84O79S7
M.Wt:	6511.44
Synonyms:	Aprotinin, Trypsin inhibitor (basic)
Target:	Proteases
Pathway:	Serine Protease
Storage:	Store at -20°C



Solvent & Solubility

≥ 195 mg/mL in H₂O; insoluble in DMSO; insoluble in EtOH

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
Concentration	1 mM	0.1536 mL	0.7679 mL	1.5358 mL
	5 mM	0.0307 mL	0.1536 mL	0.3072 mL
	10 mM	0.0154 mL	0.0768 mL	0.1536 mL

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

Biological Activity

Shortsummary

Inhibitor of bovine pancreatic trypsin

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line: HUVEC cells

Preparation method: The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	1600 kIU/mL, 60 min
	Applications:	Aprotinin dose-dependently inhibited the TNF- α -induced expression of ICAM-1 and VCAM-1, but not E-selectin.
In Vivo	Animal experiment	
	Animal models:	3- to 4-mo-old male Albino Wistar rats
	Dosage form:	The rats were anesthetized by 50 mg/kg of ketamine initially and treated with 12 mmHg pneumoperitoneum for 4h. Additional lower doses of ketamine were administered i.p. until the end of pneumoperitoneum to maintain anesthesia. A loading aprotinin dose of 28000 KIU/kg was given i.p. after the onset of pneumoperitoneum, followed by lower maintenance doses (7500 KIU/kg), which were administered per hour until the termination. Splanchnic reperfusion period lasted 60 or 180 min.
	Applications:	Treatment of aprotinin caused reduction of several cytokines and markers (TNF- α , IL-6, endothelin 1, C reactive protein, PAB and carbonyl proteins) of oxidative stress in all tissues (liver, small intestine, and lung) studied.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Yan Chen, Jiafu Zhu, et al. "Protocol for affordable and efficient profiling of nascent RNAs in bread wheat using GRO-seq." STAR Protoc. 2022 Sep 16;3(3):101657. PMID: 36097381
2. Zhao, Han Qi. "The evaluation of cold-stored platelets." University of British Columbia. 2022
3. Sebastian Himbert, Angelo D'Alessandro, et al. "The bending rigidity of the red blood cell cytoplasmic membrane." PLoS One. 2022 Aug 1;17(8):e0269619. PMID: 35913930
4. Sebastian Himbert, Syed M Qadri, et al. "Blood bank storage of red blood cells increases RBC cytoplasmic membrane order and bending rigidity." PLoS One. 2021 Nov 12;16(11):e0259267. PMID: 34767588
5. Angelo D'Alessandro, Tiffany Thomas, et al. "Biological and Clinical Factors Contributing to the Metabolic Heterogeneity of Hospitalized Patients with and without COVID-19." Cells. 2021 Sep 2;10(9):2293. PMID: 34571942

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References

- [1] Asimakopoulos G, Lidington E A, Mason J, et al. Effect of aprotinin on endothelial cell activation. The Journal of thoracic and cardiovascular surgery, 2001, 122(1): 123-128.
- [2] Baltatzis M, Pavlidis T E, Ouroumidis O, et al. Aprotinin reduces oxidative stress induced by pneumoperitoneum in rats. Journal of Surgical Research, 2014, 189(2): 238-248.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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