

## Compstatin

<b>Cat. No.:</b>	HY-P1036		
<b>CAS No.:</b>	206645-99-0		
<b>Molecular Formula:</b>	C <sub>66</sub> H <sub>99</sub> N <sub>23</sub> O <sub>17</sub> S <sub>2</sub>		
<b>Molecular Weight:</b>	1550.77		
<b>Sequence:</b>	Ile-Cys-Val-Val-Gln-Asp-Trp-Gly-His-His-Arg-Cys-Thr-NH <sub>2</sub> (Disulfide bridge: Cys2-Cys12)		
<b>Sequence Shortening:</b>	ICVVQDWGHRCT-NH <sub>2</sub> (Disulfide bridge: Cys2-Cys12)		
<b>Target:</b>	Complement System		
<b>Pathway:</b>	Immunology/Inflammation		
<b>Storage:</b>	Powder	-80°C	2 years
		-20°C	1 year
	In solvent	-80°C	6 months
		-20°C	1 month

 ICVVQDWGHRCT-NH<sub>2</sub> (Disulfide bridge: Cys2-Cys12)

### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 300 mg/mL (193.45 mM)  
 H<sub>2</sub>O : 100 mg/mL (64.48 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	0.6448 mL	3.2242 mL	6.4484 mL
	5 mM	0.1290 mL	0.6448 mL	1.2897 mL
	10 mM	0.0645 mL	0.3224 mL	0.6448 mL

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

### BIOLOGICAL ACTIVITY

#### Description

Compstatin, a 13-residue cyclic peptide, is a potent inhibitor of the complement system with species specificity. Compstatin binds to baboon C3 and is resistant to proteolytic cleavage in baboon blood (similar to humans). Compstatin inhibits only the activation of primates' complement system<sup>[1]</sup>.

#### In Vitro

Compstatin exhibits an in vitro half-life in human blood of about 2 hr<sup>[2]</sup>.  
 Compstatin displays an inhibitory activity of IC<sub>50</sub> = 12 μM<sup>[3]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Compstatin (21 mg/kg) produces complete inhibition when given as a combination of bolus injection and infusion.  
 Compstatin completely inhibits in vivo heparin/protamine-induced complement activation without adverse effects on heart

rate or systemic arterial, central venous, and pulmonary arterial pressures<sup>[1]</sup>.

Compstatin is stable in baboon plasma for more than 24 h<sup>[1]</sup>.

Pig xenografts survival is significantly longer in the Compstatin perfused group than in the control group<sup>[2]</sup>.

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Animal Model:	Juvenile baboons (P. Anubis) weighing 10.5-28.8 kg <sup>[1]</sup> .
Dosage:	50, 25 mg/kg 60 min after heparin and 2 min before protamine.
Administration:	A bolus injection.
Result:	Completely inhibited complement activation induced by heparin-protamine complexes.

## CUSTOMER VALIDATION

- J Mater Chem B. 2019, 7, 4207-4216.

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## REFERENCES

[1]. Soulika AM, et al. Inhibition of heparin/protamine complex-induced complement activation by Compstatin in baboons. Clin Immunol. 2000 Sep;96(3):212-21.

[2]. Fiane AE, et al. Compstatin, a peptide inhibitor of C3, prolongs survival of ex vivo perfused pig xenografts. Xenotransplantation. 1999 Feb;6(1):52-65.

[3]. Bert J C Janssen, et al. Structure of compstatin in complex with complement component C3c reveals a new mechanism of complement inhibition. J Biol Chem. 2007 Oct 5;282(40):29241-7.

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

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