Product Data Sheet

Product Name: Compstatin TFA
Cat. No.: GC61469

Chemical Properties

Cas. No.

Formula	$C_{68}H_{100}F_3N_{23}O_{19}S_2$	M.Wt	1664.79
Solubility	DMSO: 110 mg/mL (66.07 mM); Water: 5.22 mg/mL (3.14 mM)	Storage	-20°C, protect from light, stored under nitrogen
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C 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

ICVVQDWGHHRCT-NH2 (Disulfide bridge: Cys2-Cys12) (TFA salt)

Background

Compstatin TFA, a 13-residue cyclic peptide, is a potent inhibitor of the complement system C3 with species specificity. Compstatin TFA binds to baboon C3 and is resistant to proteolytic cleavage in baboon blood (similar to humans). Compstatin TFA inhibits only the activation of primates' complement system. Compstatin TFA exhibits IC50 values of 63 μM and 12 μM for classical and alterative complement pathway, respectively[1][2][3].

Compstatin exhibits an in vitro half-life in human blood of about 2 hr[2].In solution, compstatin forms a

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β-turn at residues Gln-5-Gly-8 with the disulfide bridge Cys-2-Cys12, residues Ile-1-Val-4, and Thr-13, forming a hydrophobic cluster[3].

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[1].Compstatin is stable in baboon plasma for more than 24 h[1].Pig xenografts survival is significantly longer in the Compstatin perfused group than in the control group[2]. Animal Model: Juvenile baboons (P. Anubis) weighing 10.5-28.8 kg[1].

[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. [4]. A Sahu, et al. Inhibition of human complement by a C3-binding peptide isolated from a phage-displayed random peptide library. J Immunol. 1996 Jul 15;157(2):884-91.

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