Compstatin

Catalog No.C13466 Batch:C1346603

Product Datasheet

Technical Data

Formula	$C_{66}H_{99}N_{23}O_{17}S_2$		
Molecular Weight	1550.77	**CAS No.**	206645-99-0
Solubility (25°C)*	In vitro	Water	100 mg/mL (64.48 mM)

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
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
50 mM	0.0129 mL	0.0645 mL	0.1290 mL

Biological Activity

Description	Compstatin binds to **primates' complement component C3** and inhibits complement activation with IC50 of 12 μM.
Targets	complement component C3 [4] 12 μM
In vitro	Compstatin binds to native C3 and inhibits its cleavage by C3 convertase. Binding of this compound to native C3 is a multistep reaction that is preferred over its binding to the C3 fragments C3b and C3c. N-acetylation of this compound provides stability against enzymatic degradation[1]. This compound features a high selectivity for human and primate C3. While binding to C3 from baboons and other primates shows comparable interaction profiles as its human counterpart, no binding is detected for C3 from lower mammalian species such as mice, rats, guinea pigs, rabbits, or pigs[3].
In vivo	Compstatin completely inhibits in vivo heparin-induced complement activation without adverse effects on heart rate or systemic arterial, central venous, and pulmonary arterial pressures. This compound is a safe and effective complement inhibitor that has the potential to prevent complement activation during and after clinical cardiac surgery. Furthermore, it can serve as the prototype for designing an orally administrated drug. In the extracorporeal circulation model, this peptide inhibits the generation of C3a and C5a, the formation of the membrane attack complex, and CD11b expression on neutrophils (PMNs). The peptide also inhibits binding of C3/C3 fragments, PMNs, and monocytes to the polymer surface[2].

Protocol (from reference)

Cell Assay:[5]

- **Cell lines**
  iPSC-ECs
- **Concentrations**
  50 μM
- **Incubation Time**
  2 days
- **Method**
  Cells were treated with indicated concentration of this compound for 2 days.

Animal Study:[2]

- **Animal Models**
  Juvenile baboons (P. anubis)
- **Dosages**
  17, 21, 34, 38.5, 50, 63.5 mg/kg
- **Administration**
  by bolus injection, infusion, or both

References

https://pubmed.ncbi.nlm.nih.gov/10946275/ https://pubmed.ncbi.nlm.nih.gov/10964539/ https://pubmed.ncbi.nlm.nih.gov/25678219/

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RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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