Product Datasheet

Technical Data

Formula	$C_{14}H_{14}N_4O_3$					
Molecular Weight	286.29	**CAS No.**	1015474-32-4			
Solubility (25°C)*	In vitro	DMSO	57 mg/mL (199.09 mM)			
		Water	Insoluble			
		Ethanol	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <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	3.4930 mL	17.4648 mL	34.9296 mL
5 mM	0.6986 mL	3.4930 mL	6.9859 mL
10 mM	0.3493 mL	1.7465 mL	3.4930 mL
50 mM	0.0699 mL	0.3493 mL	0.6986 mL

Biological Activity

Description	Avadomide (CC-122) is a new chemical entity termed pleiotropic pathway modifier and a novel agent for Diffuse large B-cell lymphoma (DLBCL) with antitumor and immunomodulatory activity. Its molecular target is the protein **cereblon** (CRBN), a substrate receptor of the cullin ring E3 ubiquitin ligase complex $CRL4^{CRBN}$.
Targets	CRBN [1]
In vitro	Avadomide (CC-122) is a novel agent for DLBCL with antitumor and immunomodulatory activity. In DLBCL cell lines, it binds CRBN and induces degradation or short hairpin RNA-mediated knockdown of Aiolos and Ikaros which correlates with increased transcription of interferon (IFN)-stimulated genes independent of IFN-α, -β, and -γ production and/or secretion and results in apoptosis in both activated B-cell (ABC) and germinal center B-cell DLBCL cell lines. CRBN is the molecular target of this compound, which recruits Aiolos/Ikaros to $CRL4^{CRBN}$ upon binding to CRBN, and E3 ligase enzymatic activity is necessary for ubiquitination of Aiolos and Ikaros and thus their proteasomal degradation induced by CC-122. It induces IFN-regulated proteins and its mediated effects on the IFN pathway is independent of autocrine type I and II IFN secretion and signaling[1].
In vivo	Avadomide (CC-122) reduces tumor growth in xenograft models established from ABC- and GCB-DLBCL cell lines, and stimulates IL-2 production in primary T cells. Also, in a single-arm clinical trial of this compound, exposure to it reduced expression levels of Aiolos and Ikaros in each patient by 25% to 50% demonstrating the utility of these 2 proteins as pharmacodynamic markers of CC-122[1].

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  DLBCL cell lines(TMD8, U2932, Riva, and OCI-LY10) and GCB-DLBCL lines (Karpas 422, WSU-DLCL2, SUDHL-4, OCI-LY19, and Pfeiffer)
- **Concentrations**
  0.01 to 10 000 nM
- **Incubation Time**
  5 days
- **Method**
  Diffuse Large B-Cell Lymphoma cells are cultured in RPMI-1640 containing 10-20% fetal bovine serum, 1% Penicillin/Streptomycin and 1 mM sodium pyruvate. 2×10^4 cells are plated per well in media containing either DMSO or various concentrations of Avadomide (CC-122). After this compound is added, cells are cultured for 5 days at 37 degrees Celsius after which tritiated thymidine is added to the cell culture for the final 6 hours. Cells are subsequently harvested onto filter plates. After the plates have dried, scintillation fluid is added to the plates and read on a Top-count reader.

Animal Study:[1]

- **Animal Models**
  CB-17 SCID mice
- **Dosages**
  3 or 30 mg/kg
- **Administration**
  p.o.

References

https://pubmed.ncbi.nlm.nih.gov/26002965/

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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