# Product Datasheet

## Technical Data

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| **Formula** | $C_{14}H_{22}N_6O_5$.HCl | | | | | |
| **Molecular Weight** | 390.82 | **CAS No.** | 175865-59-5 | | | |
| **Solubility (25°C)*** | In vitro | DMSO | 78 mg/mL (199.58 mM) | | | |
| | | Water | 78 mg/mL (199.58 mM) | | | |
| | | 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 | 2.5587 mL | 12.7936 mL | 25.5872 mL |
| 5 mM | 0.5117 mL | 2.5587 mL | 5.1174 mL |
| 10 mM | 0.2559 mL | 1.2794 mL | 2.5587 mL |
| 50 mM | 0.0512 mL | 0.2559 mL | 0.5117 mL |

## Biological Activity

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|---|---|
| **Description** | Valganciclovir HCl is a prodrug for ganciclovir with antiviral activity used to treat cytomegalovirus infections. |
| **In vitro** | Valganciclovir hydrochloride is a hydrochloride salt of the L-valyl ester of ganciclovir that exists as a mixture of two diastereomers. [1] After administration, these diastereomers are rapidly converted to ganciclovir by hepatic and intestinal esterases. In cytomegalovirus (CMV)-infected cells, ganciclovir is initially phosphorylated to the monophosphate form by viral protein kinase, then it is further phosphorylated via cellular kinases to produce the triphosphate form. This triphosphate form is slowly metabolized intracellularly. The phosphorylation is dependent upon the viral kinase and occurs preferentially in virus-infected cells. The virustatic activity of ganciclovir is due to the inhibition of viral DNA synthesis by ganciclovir triphosphate. Ganciclovir triphosphate is incorporated into the DNA strand replacing many of the adenosine bases. This results in the prevention of DNA synthesis, as phosphodiester bridges can longer to be built, destabilizing the strand. Ganciclovir inhibits viral DNA polymerases more effectively than it does cellular polymerase, and chain elongation resumes when ganciclovir is removed. [2] |
| **In vivo** | After oral administration, intestinal and hepatic esterases hydrolyze both diastereomers to ganciclovir, which inhibits replication of the human cytomegalovirus. Valganciclovir is well absorbed from the gastrointestinal tract and the absolute bioavailability from valganciclovir tablets (following administration with food) is approximately 60%.[2] |

## References

http://www.ncbi.nlm.nih.gov/pubmed/ 10824137
http://www.ncbi.nlm.nih.gov/pubmed/ 15819597

### 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.

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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