

## Small Molecules

### Arbidol

Blocks fusion between virus and target host cells

Catalog # 74002  
74004

5 mg  
10 mg



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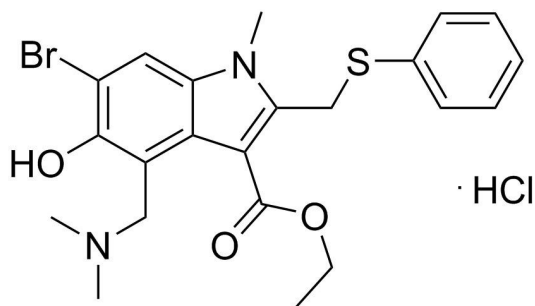
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## Product Description

Arbidol is a broad-spectrum antiviral compound that blocks membrane fusion between virus and target host cells (Leneva et al.; Teissier et al.). It is effective against numerous viruses, including influenza A, B, and C, and hepatitis B and C, with  $IC_{50}$  values ranging from 3 - 12.5  $\mu\text{g/mL}$  (Boriskin et al.). This product is supplied as the hydrochloride salt of the molecule.

**Molecular Name:** Arbidol (Hydrochloride)  
**Alternative Names:** Umifenovir  
**CAS Number:** 131707-23-8  
**Chemical Formula:**  $\text{C}_{22}\text{H}_{25}\text{BrN}_2\text{O}_3\text{S} \cdot \text{HCl}$   
**Molecular Weight:** 513.9 g/mol  
**Purity:**  $\geq 98\%$   
**Chemical Name:** ethyl 6-bromo-4-[(dimethylamino)methyl]-5-hydroxy-1-methyl-2-(phenylsulfanylmethyl)indole-3-carboxylate;hydrochloride

**Structure:**



## Properties

**Physical Appearance:** A crystalline solid  
**Storage:** Product stable at  $-20^{\circ}\text{C}$  as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant.  
Stable as supplied for 12 months from date of receipt.  
**Solubility:** · DMSO  $\leq 25$  mM  
· Absolute ethanol  $\leq 15$  mM  
For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 195  $\mu\text{L}$  of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at  $-20^{\circ}\text{C}$ . Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### DISEASE MODELING

· Reduces viral replication and acute inflammation through modulating the expression of inflammatory cytokines such as interleukin 1 $\beta$ , interleukin 6, interleukin 12, and tumor necrosis factor- $\alpha$  (Liu et al.).

## References

- Boriskin YS et al. (2008) Arbidol: a broad-spectrum antiviral compound that blocks viral fusion. *Curr Med Chem* 15(10): 997–1005.
- Leneva IA et al. (2009) Characteristics of arbidol-resistant mutants of influenza virus: Implications for the mechanism of anti-influenza action of arbidol. *Antiviral Res* 81(2): 132–40.
- Liu Q et al. (2013) Antiviral and anti-inflammatory activity of arbidol hydrochloride in influenza A (H1N1) virus infection. *Acta Pharmacol Sin* 34(8): 1075–83.
- Teissier E et al. (2011) Mechanism of inhibition of enveloped virus membrane fusion by the antiviral drug arbidol. *PLoS One* 6(1): e15874.

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**This product is hazardous. Please refer to the Safety Data Sheet (SDS).**

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