

# Small Molecules

## Arbidol

Blocks fusion between virus and target host cells

Catalog # 74002  
74004

5 mg  
10 mg



Scientists Helping Scientists™ | [WWW.STEMCELL.COM](http://WWW.STEMCELL.COM)

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

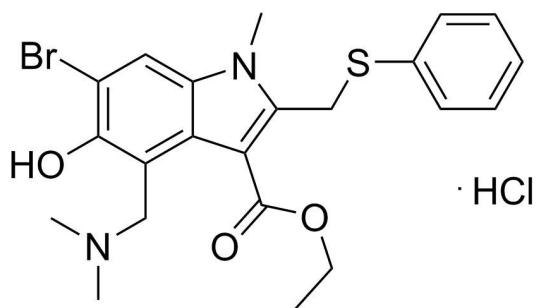
[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

## 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  $\mu$ 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:  $C_{22}H_{25}BrN_2O_3S \bullet HCl$   
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°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant.  
Solubility: Stable as supplied for 12 months from date of receipt.  
· 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  $\mu$ 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°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.

## Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit [www.stemcell.com/smallmolecules](http://www.stemcell.com/smallmolecules) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

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

PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2020 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.