

Small Molecules

Atazanavir

HIV-1 protease inhibitor

Catalog #100-1166

25 mg



Scientists Helping Scientists™ | WWW.STEMCELL.COM

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

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Atazanavir is an azapeptide and HIV-1 protease inhibitor ($IC_{50} = 2 - 5$ nM; Wood). Atazanavir binds to HIV-1 protease and prevents it from producing viral proteins, rendering the virus non-infectious, as no mature virions are made when HIV-1 protease is inhibited (Kohl et al.). Atazanavir is also a substrate and an inhibitor of cytochrome P450 isozyme 3A (CYP3A), and an inducer of P-glycoprotein (Perloff et al.).

Alternative Names: BMS 232632; CGP 73547; Latazanavir

CAS Number: 198904-31-3

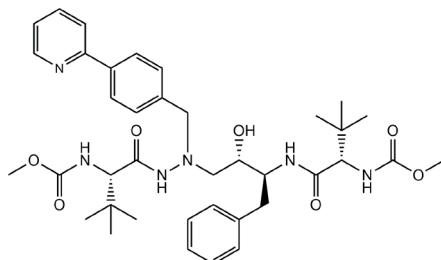
Chemical Formula: $C_{38}H_{52}N_6O_7$

Molecular Weight: 704.9 g/mol

Purity: $\geq 98\%$

Chemical Name: Methyl N-[(2S)-1-[2-[(2S,3S)-2-hydroxy-3-[[[(2S)-2-(methoxycarbonylamino)-3,3-dimethylbutanoyl]amino]-4-phenylbutyl]-2-[(4-pyridin-2-ylphenyl)methyl]hydrazinyl]-3,3-dimethyl-1-oxobutan-2-yl]carbamate

Structure:



Properties

Physical Appearance: A white to off-white powder

Storage: Product stable at -20°C as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.

Solubility: • DMSO ≤ 60 mM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 1.42 mL 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

CANCER RESEARCH

- Induces endoplasmic reticulum stress response in malignant glioma cells by activating caspase-4, which leads to cell death (Pyrko et al.).
- Induces senescence and oxidative stress in proliferating human bone marrow mesenchymal stem cells (Hernandez-Vallejo et al.).

References

- Hernandez-Vallejo SJ et al. (2013) HIV protease inhibitors induce senescence and alter osteoblastic potential of human bone marrow mesenchymal stem cells: beneficial effect of pravastatin. *Aging Cell* 12(6): 955–65.
- Kohl NE et al. (1988) Active human immunodeficiency virus protease is required for viral infectivity. *Proc Natl Acad Sci* 85(13): 4686–90.
- Perloff ES et al. (2005) Atazanavir: effects on P-glycoprotein transport and CYP3A metabolism in vitro. *Drug Metab Dispos* 33(6): 764–70.
- Pyrko P et al. (2007) HIV-1 protease inhibitors nelfinavir and atazanavir induce malignant glioma death by triggering endoplasmic reticulum stress. *Cancer Res* 67(22): 10920–8.
- Wood R. (2008) Atazanavir: its role in HIV treatment. *Expert Rev Anti Infect Ther* 6(6): 785–96.

Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules, or contact us at 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 © 2023 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.