

Product Name: AKT Inhibitor IV

Catalog No.: 5985

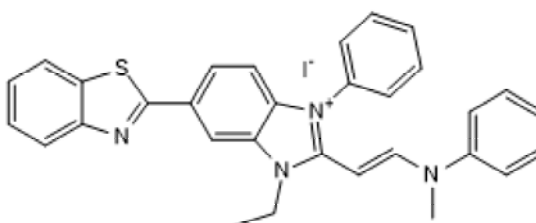
Batch No.: 1

CAS Number: 959841-49-7

IUPAC Name: 6-(2-Benzothiazolyl)-1-ethyl-2-[(1E)-2-(methylphenylamino)ethenyl]-3-phenyl-1H-benzimidazolium iodide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₁H₂₇IN₄S.
Batch Molecular Weight: 614.54
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.9% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

	Carbon Hydrogen Nitrogen		
	Carbon	Hydrogen	Nitrogen
Theoretical	60.59	4.43	9.12
Found	60.42	4.47	8.9

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

AKT Inhibitor IV promotes hyperphosphorylation of Akt (Protein kinase B), decreases phosphorylation of Akt substrates, and inhibits FOXO1a nuclear export (IC₅₀ = 625 nM in PTEN-null cells). AKT Inhibitor IV inhibits the proliferation of several cell lines (IC₅₀ values are <1.25 μM, 320 - 670 nM and 340 nM for 786-O, HeLa and Jurkat cells, respectively). This compound also displays broad antiviral activity against negative-stranded RNA viruses; inhibits replication of parainfluenza virus 5 (PIV5) in HeLa cells (IC₅₀ = 520 nM). In HeLa cells, AKT Inhibitor IV accumulates in mitochondria, disrupting morphology and increasing ROS produ... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

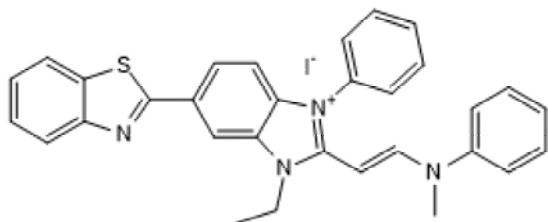
Batch Molecular Formula: C₃₁H₂₇IN₄S.

Batch Molecular Weight: 614.54

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Meinig & Peterson (2015) Anticancer/antiviral agent Akt inhibitor-IV massively accumulates in mitochondria and potently disrupts cellular bioenergetics. *ACS.Chem.Biol.* **10** 570. PMID: 25415586.

Sun et al (2011) Synthesis and biological evaluation of analogues of AKT (protein kinase B) inhibitor-IV. *J.Med.Chem* **54** 1126. PMID: 21319800.

Kau et al (2003) A chemical genetic screen identifies inhibitors of regulated nuclear export of a Forkhead transcription factor in PTEN-deficient tumor cells. *Cancer Cell.* **4** 463. PMID: 14706338.

Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956