

Product Name: AKOS 022

Catalog No.: 7135

Batch No.: 1

CAS Number: 878983-38-1

IUPAC Name: 1-(4-Chlorophenyl)-3-[4-[[4-(trifluoromethoxy)phenyl]amino]-1-piperidinyl]-2,5-pyrrolidinedione

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₂₁ClF₃N₃O₃·½H₂O

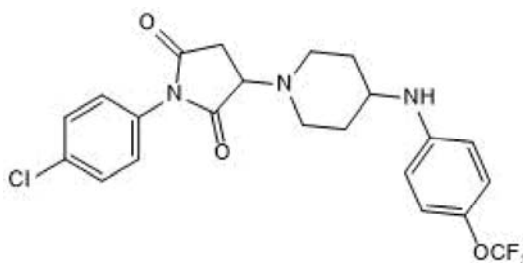
Batch Molecular Weight: 472.37

Physical Appearance: White 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

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.94	4.59	8.9
Found	55.62	4.44	8.83

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

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Description:

AKOS 022 is a voltage-dependent anion channel (VDAC; $K_d = 154 \mu\text{M}$) inhibitor, which reduces channel conductance. In HEK-293 cells, AKOS 022 inhibits selenium-induced VDAC oligomerization, cytochrome C release from mitochondria and apoptosis (IC_{50} values range from 3.3 to 3.6 μM). AKOS 022 also prevents glucotoxicity-mediated overexpression of VDAC1 in INS-1 cells.

Physical and Chemical Properties:

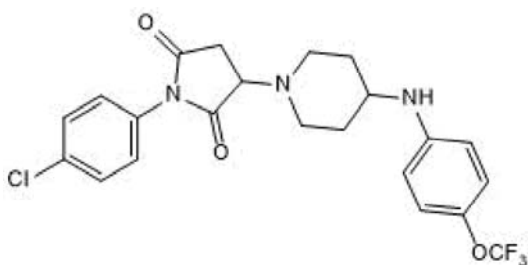
Batch Molecular Formula: $\text{C}_{22}\text{H}_{21}\text{ClF}_3\text{N}_3\text{O}_3 \cdot \frac{1}{4}\text{H}_2\text{O}$

Batch Molecular Weight: 472.37

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



Storage: Store at -20°C

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 $45\text{-}60^\circ\text{C}$ 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.

References:

Zhang *et al* (2019) Preserving insulin secretion in diabetes by inhibiting VDAC1 overexpression and surface translocation in β cells. *Cell Metab.* **29** 64. PMID: 30293774.

Ben-Hail *et al* (2016) Novel compounds targeting the mitochondrial protein VDAC1 inhibit apoptosis and protect against mitochondrial dysfunction. *J.Biol.Chem.* **291** 24986. PMID: 27738100.

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