

Certificate of Analysis

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Product Name: NS 11021

Catalog No.: 4788

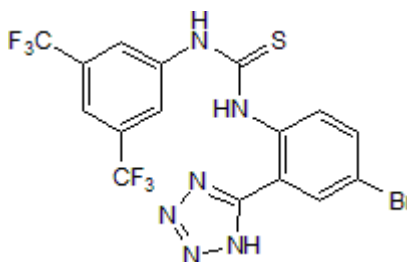
Batch No.: 1

CAS Number: 956014-19-0

IUPAC Name: *N*-[3,5-Bis(trifluoromethyl)phenyl]-*N*-[4-bromo-2-(2*H*-tetrazol-5-yl-phenyl)]thiourea

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₆H₉BrF₆N₆S
Batch Molecular Weight: 511.24
Physical Appearance: White solid
Solubility: ethanol to 100 mM
 DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.51 (Ethyl acetate:Methanol [9:1])
HPLC: Shows >98.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

| | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 37.59 | 1.77 | 16.44 |
| Found | 37.49 | 1.79 | 16.23 |

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

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Description:

Activator of large-conductance Ca²⁺-activated potassium channels (BK_{Ca}, K_{Ca}1.1). Exhibits no modulatory effect on a variety of K⁺ (K_V), Na⁺ and Ca²⁺ currents at concentrations <10 μM. Alters gating kinetics, but does not affect single channel conductance. Shown to bind BK_{Ca} in open and closed conformations; thought to bind the α subunit.

Physical and Chemical Properties:

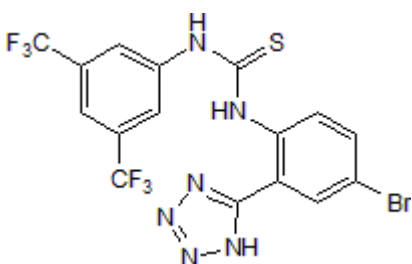
Batch Molecular Formula: C₁₆H₉BrF₆N₆S

Batch Molecular Weight: 511.24

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Bentzen *et al* (2007) The small molecule NS11021 is a potent and specific activator of Ca²⁺-activated big-conductance K⁺ channels. *Mol.Pharmacol.* **72** 1033. PMID: 17636045.

Kun *et al* (2009) NS11021, a novel opener of large-conductance Ca²⁺-activated K⁺ channels, enhances erectile responses in rats. *Br.J.Pharmacol.* **158** 1465. PMID: 19845682.

Layne *et al* (2009) BK channel activation by NS11021 decreases excitability and contractility of urinary bladder smooth muscle. *Am.J.Physiol.Regul.Integr.Comp.Physiol.* **298** R378. PMID: 19923353.

Storage: Store at -20°C

Solubility & Usage Info:

ethanol to 100 mM

DMSO to 100 mM

CAUTION - This product was found to be unstable in DMSO. Therefore, we recommend that, as far as possible, solutions should be made up and used immediately.

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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