

**Product Name:** VU 591 hydrochloride

**Catalog No.:** 4197

**Batch No.:** 1

CAS Number: 1315380-70-1

IUPAC Name: 6-Nitro-2-[(6-nitro-1*H*-benzimidazol-2-yl)methoxymethyl]-1*H*-benzimidazole hydrochloride

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>16</sub>H<sub>12</sub>N<sub>6</sub>O<sub>5</sub>·½H<sub>2</sub>O

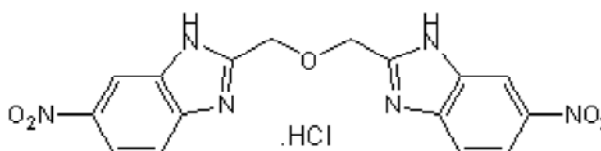
**Batch Molecular Weight:** 377.31

**Physical Appearance:** Grey solid

**Solubility:** DMSO to 100 mM

**Storage:** Desiccate at RT

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.45 (Dichloromethane:Methanol [9:1])

**HPLC:** Shows 99.8% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	46.44	3.41	20.31
Found	46.58	3.38	20.42

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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

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**Description:**

Selective renal outer medullary potassium channel ( $K_{ir}1.1$ , ROMK) antagonist ( $IC_{50} = 300$  nM). Thought to block the intracellular pore of the  $K_{ir}1.1$  channel. Exhibits no effect on  $K_{ir}7.1$  at concentrations up to 10  $\mu$ M; does not inhibit  $K_{ir}2.1$ ,  $K_{ir}2.3$  or  $K_{ir}4.1$ . Displays similar potency to VU 590 (Cat. No. 3891).

**Physical and Chemical Properties:**

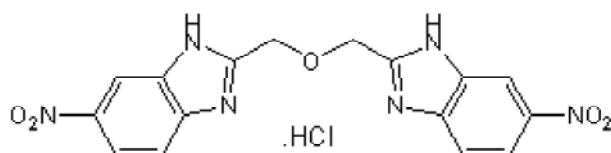
Batch Molecular Formula:  $C_{16}H_{12}N_6O_5 \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 377.31

Physical Appearance: Grey solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Desiccate at RT

**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.

**References:**

**Bhave et al** (2011) Development of a selective small-molecule inhibitor of Kir1.1, the renal outer medullary potassium channel. *Mol.Pharmacol.* **79** 42. PMID: 20926757.

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