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Print Date: Jan 15th 2016

Certificate of Analysis

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Product Name: **YM 90K hydrochloride** **Catalog No.: 2701** **Batch No.: 1**

CAS Number: 154164-30-4

IUPAC Name: 1,4-Dihydro-6-(1*H*-imidazol-1-yl)-7-nitro-2,3-quinoxalinedione hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_7N_5O_4.HCl$

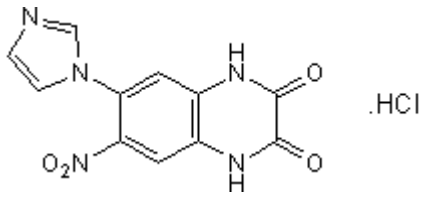
Batch Molecular Weight: 309.67

Physical Appearance: Orange solid

Solubility: DMSO to 10 mM with gentle warming

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.67 (Pyridine:Acetic acid:Water:Butanol [3:8:11:15])

HPLC: Shows >99.7% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	42.67	2.6	22.62	11.45
Found	42.73	2.39	22.53	11.42

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Description:

Selective AMPA receptor antagonist (K_i values are 84, 2200 and > 37000 nM for AMPA, kainate and NMDA receptors respectively). Neuroprotective; delays neuronal death in a global ischemia model and cerebral infarction in a focal ischemia model following postischemic administration.

Physical and Chemical Properties:

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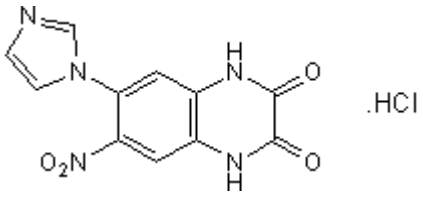
Batch Molecular Weight: 309.67

Physical Appearance: Orange solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

DMSO to 10 mM with gentle warming

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:

Ohmori *et al* (1994) 6-(1*H*-imidazol-1-yl)-7-nitro-2,3(1*H*,4*H*)-quinoxalinedione hydrochloride (YM90K) and related compounds: structure-activity relationships for the AMPA-type non-NMDA receptor. J.Med.Chem. ***37*** 467. PMID: 8120865.

Umemura *et al* (1997) Neuroprotective effect of a novel AMPA receptor antagonist, YM90K, in rat focal cerebral ischaemia. Brain Res. ***773*** 61. PMID: 9409705.

Nakano *et al* (2001) A potent AMPA/kainate receptor antagonist, YM90K, attenuates the loss of N-acetylaspartate in the hippocampal CA1 area after transient unilateral forebrain ischemia in gerbils. Life Sci. ***69*** 1983. PMID: 11589513.

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