Print Date: May 18th 2018

Certificate of Analysis

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Product Name: **D609** **Catalog No.: 1437** **Batch No.: 2**

CAS Number: 83373-60-8 EC Number: 280-379-9

IUPAC Name: *O*-(Octahydro-4,7-methano-1*H*-inden-5-yl) carbonopotassium dithioate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_{15}OS_2K.½H_2O$

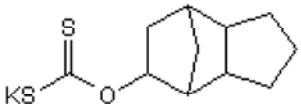
Batch Molecular Weight: 275.47

Physical Appearance: Off-white solid

Solubility: water to 100 mM
phosphate buffered saline to 100 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.41 (Chloroform:Methanol [95:5])

HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	47.96	5.85	
Found	48.02	5.51	

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

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

Product Information

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CAS Number: 83373-60-8 EC Number: 280-379-9

IUPAC Name: *O*-(Octahydro-4,7-methano-1*H*-inden-5-yl) carbonopotassium dithioate

Description:

Selective competitive phosphatidyl choline-specific phospholipase C (PC-PLC) inhibitor (K_i = 6.4 µM); antiviral and antitumor agent. Also inhibits sphingomyelin synthase. Suppresses LPS- and IFNγ-induced NO production (IC_{50} = 20 mg/ml) and blocks oxidative glutamate toxicity in nerve cells. Antioxidant in vivo.

Physical and Chemical Properties:

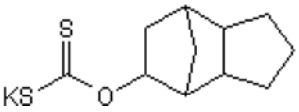
Batch Molecular Formula: $C_{11}H_{15}OS_2K.½H_2O$

Batch Molecular Weight: 275.47

Physical Appearance: Off-white solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at -20°C

Solubility & Usage Info:

water to 100 mM

phosphate buffered saline to 100 mM

Caution: D-609 is readily soluble in water. However it is very unstable in solution with a half life of < 2 days in tissue culture medium. Additionally the product is readily hydrolyzed below pH 6.0. Stock solutions should therefore be prepared immediately before use and any unused solution disposed of. For use in tissue culture preparations, the media should ideally be buffered to a pH range of 6.0-7.5. Additionally HEPES buffer must not be used as it renders the product toxic.

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:

Adibhatla *et al* (2012) Tricyclodecan-9-yl-xanthogenate (D609) mechanism of actions: a mini-review of literature. Neurochem.Res. ***37*** 671. PMID: 22101393.

Zhou *et al* (2001) D609 inhibits ionizing radiation-induced oxidative damage by acting as a potent antioxidant. J.Pharmacol.Exp.Ther. ***298*** 103. PMID: 11408530.

Amtmann (1996) The antiviral, antitumoural xanthate D609 is a competitive inhibitor of phosphatidylcholine-specific phospholipase C. Drugs Exp.Clin.Res. ***22*** 287. PMID: 9034754.

Tschiakowsky *et al* (1994) Induction of nitric oxide synthase activity in phagocytic cells inhibited by tricyclodecan-9-yl-xanthogenate (D609). Br.J.Pharmacol. ***113*** 664. PMID: 7532078.