

**Product Name:** Bz 423

**Catalog No.:** 5791

**Batch No.:** 1

CAS Number: 216691-95-1

IUPAC Name: 7-Chloro-1,3-dihydro-5-(4-hydroxyphenyl)-1-methyl-3-(2-naphthalenylmethyl)-2H-1,4-benzodiazepin-2-one

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>27</sub>H<sub>21</sub>ClN<sub>2</sub>O<sub>2</sub>·½H<sub>2</sub>O

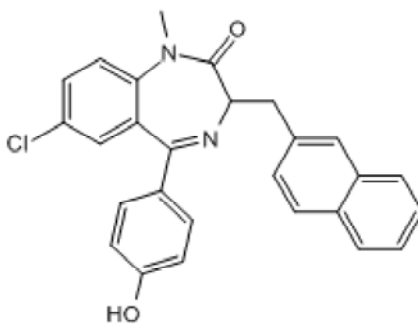
**Batch Molecular Weight:** 449.93

**Physical Appearance:** White solid

**Solubility:** DMSO to 100 mM  
ethanol to 100 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.32 (Ethyl acetate:Petroleum ether [3:7])

**HPLC:** Shows 99.1% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	72.08	4.93	6.23
Found	71.98	5.04	6.22

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**Description:**

Bz 423 is an ATP synthase inhibitor (IC<sub>50</sub> ~5 μM). Binds the oligomycin sensitivity conferring protein (OSCP) component of mitochondrial F<sub>1</sub>F<sub>0</sub>-ATPase in vitro resulting in generation of superoxide and apoptosis. Kills primary B and T cell in mice in vivo. Suppresses autoimmunity and prolongs survival in mouse lupus model.

**Physical and Chemical Properties:**

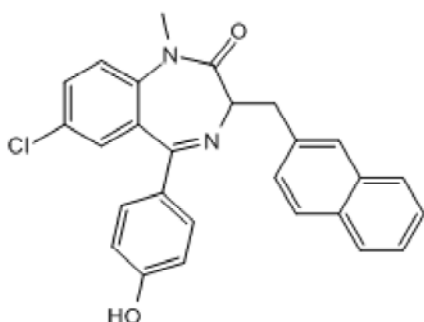
Batch Molecular Formula: C<sub>27</sub>H<sub>21</sub>ClN<sub>2</sub>O<sub>2</sub>·½H<sub>2</sub>O

Batch Molecular Weight: 449.93

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 100 mM  
ethanol 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:**

**Blatt et al** (2009) Bz-423 superoxide signals B cell apoptosis via Mcl-1, Bak, and Bax. *Biochem.Pharmacol.* **15** 966. PMID: 19481066.

**Johnson et al** (2005) Identification and validation of the mitochondrial F<sub>1</sub>F<sub>0</sub>-ATPase as the molecular target of the immunomodulatory benzodiazepine Bz-423. *Chem.Biol.* **12** 485. PMID: 15850986.

**Blatt et al** (2002) Benzodiazepine-induced superoxide signals B cell apoptosis: mechanistic insight and potential therapeutic utility. *J.Clin.Invest.* **110** 1123. PMID: 12393848 .

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