

**Product Name:** NU 7441

**Catalog No.:** 3712

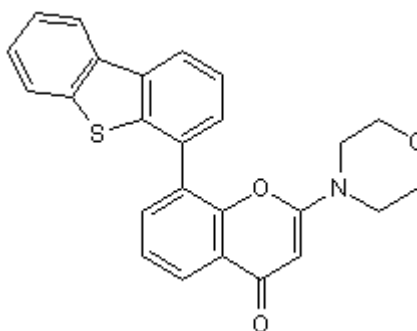
**Batch No.:** 4

**CAS Number:** 503468-95-9

**IUPAC Name:** 8-(4-Dibenzothieryl)-2-(4-morpholinyl)-4*H*-1-benzopyran-4-one

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>25</sub>H<sub>19</sub>NO<sub>3</sub>S.½H<sub>2</sub>O  
**Batch Molecular Weight:** 422.5  
**Physical Appearance:** Light beige solid  
**Solubility:** DMSO to 5 mM with gentle warming  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.2% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

|             | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 71.07  | 4.77     | 3.32     |
| Found       | 71.25  | 4.64     | 3.29     |

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

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**Product Name:** NU 7441

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**IUPAC Name:** 8-(4-Dibenzothiienyl)-2-(4-morpholinyl)-4*H*-1-benzopyran-4-one

**Description:**

Potent and selective DNA-dependent protein kinase (DNA-PK) inhibitor (IC<sub>50</sub> values are 14, 1700, 5000, >100000 and >100000 nM for DNA-PK, mTOR, PI 3-K, ATM and ATR respectively). Displays no activity at a range of 60 diverse kinases at 10 µM. Potentiates the effects of radiation, doxorubicin (Cat. No. 2252) and etoposide (Cat. No. 1226) in human tumor cell lines in vitro and etoposide in a human tumor xenograft model in vivo.

**Physical and Chemical Properties:**

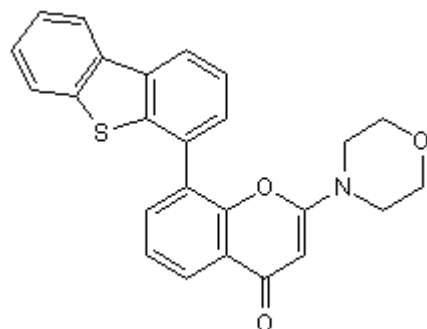
Batch Molecular Formula: C<sub>25</sub>H<sub>19</sub>NO<sub>3</sub>S.½H<sub>2</sub>O

Batch Molecular Weight: 422.5

Physical Appearance: Light beige solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 5 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:**

**Leahy et al** (2004) Identification of a highly potent and selective DNA-dependent protein kinase (DNA-PK) inhibitor (NU7441) by screening of chromenone libraries. *Bioorg.Med.Chem.Lett.* **14** 6083.

**Zhao et al** (2006) Preclinical evaluation of a potent novel DNA-dependent protein kinase inhibitor NU7441. *Cancer Res.* **66** 5354. PMID: 16707462.

**Willmore et al** (2008) DNA-dependent protein kinase is a therapeutic target and an indicator of poor prognosis in B-cell chronic lymphocytic leukemia. *Clin.Cancer Res.* **14** 3984. PMID: 18559621.

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