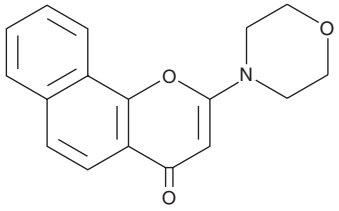
PRODUCT INFORMATION

NU 7026

Item No. 13308

CAS Registry No.:	154447-35-5
Formal Name:	2-(4-morpholinyl)-4H-naphtho[1,2-b]pyran-4-one
Synonyms:	DNA-PK Inhibitor II, LY293646
MF:	$C_{17}H_{15}NO_3$
FW:	281.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 219, 255, 315 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

NU 7026 is supplied as a crystalline solid. A stock solution may be made by dissolving the NU 7026 in the solvent of choice, which should be purged with an inert gas. NU 7026 is soluble in the organic solvent dimethyl formamide at a concentration of approximately 0.15 mg/ml.

Description

DNA-dependent protein kinase (DNA-PK) binds to strand breaks produced during normal cellular processes or in response to genotoxic stresses, such as ionizing radiation, targeting substrates that facilitate DNA repair. NU 7026 is a cell-permeable, potent, specific, and ATP-competitive inhibitor of DNA-PK (IC_{50} = 230 nM).[1] It poorly inhibits phosphioinositide 3 kinase (IC_{50} = 13 µM) and is inactive against ataxia telangiectasia mutated kinase, ATR, and poly (ADP-ribose) polymerase.[1] NU 7026 impairs cellular DNA double strand break repair and decreases survival in cells exposed to ionizing radiation.[1] It also potentiates the cytotoxicity of topoisomerase II poisons used in the treatment of leukemia. For example, it potentiates the growth inhibitory effects of mitoxantrone in K562 cells more than 10-fold.[2]

References

1. Veuger, S.J., Curtin, N.J., Richardson, C.J., *et al.* Radiosensitization and DNA repair inhibition by the combined use of novel inhibitors of DNA-dependent protein kinase and poly(ADP-ribose) polymerase-1. *Cancer Res.* **63(18)**, 6008-6015 (2003).
2. Willmore, E., de Caux, S., Sunter, N.J., *et al.* A novel DNA-dependent protein kinase inhibitor, NU 7026, potentiates the cytotoxicity of topoisomerase II poisons used in the treatment of leukemia. *Blood* **103(12)**, 4659-4665 (2004).

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