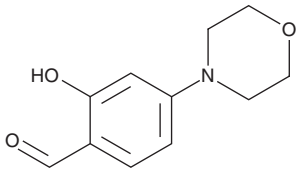
PRODUCT INFORMATION

DNA-PK Inhibitor IV

Item No. 24304

CAS Registry No.: 70362-07-1
Formal Name: 2-hydroxy-4-(4-morpholinyl)-benzaldehyde
MF: $C_{11}H_{13}NO_3$
FW: 207.2
Purity: ≥98%
UV/Vis.: λ_{max}: 215, 338 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

DNA-PK inhibitor IV is supplied as a crystalline solid. A stock solution may be made by dissolving the DNA -PK inhibitor IV in the solvent of choice. DNA-PK inhibitor IV is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of DNA-PK inhibitor IV in these solvents is approximately 33 mg/ml.

DNA-PK inhibitor IV is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DNA-PK inhibitor IV should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. DNA-PK inhibitor IV has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DNA-PK inhibitor IV is an inhibitor of DNA-dependent protein kinase (DNA-PK) with an IC_{50} value of 400 nM for the DNA-PK-dependent phosphorylation of a p53 peptide substrate.[1] It also inhibits the phosphatidylinositol 3-kinase (PI3K) isoforms p110β, p110δ, and p110γ (IC_{50}s = 2.8, 5.1, and 37 nM, respectively) but not p110α (IC_{50} = ~10 µM) or class II PI3Ks, PI4Kβ, ATM, ATR, mTOR, CK2, or GRK2 (IC_{50}s = >50 µM).[2] It enhances radiation-induced cytotoxicity of HCT116 cells when used at a concentration of 100 µM.[1]

References

1. Wang, F., Qiao, L., Lv, X., *et al.* Alarmin human α defensin HNP1 activates plasmacytoid dendritic cells by triggering NF-κB and IRF1 signaling pathways. *Cytokine* **83**, 53-60 (2016).
2. Park, H.I., Turk, B.E., Gerkema, F.E., *et al.* Peptide substrate specificities and protein cleavage sites of human endometase/matrilysin-2/matrix metalloproteinase-26. *J. Biol. Chem.* **277(38)**, 35168-35175 (2002).

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