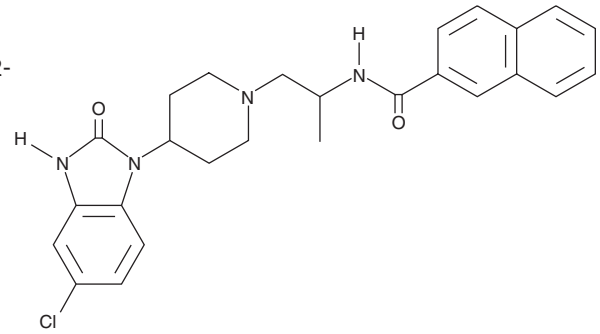
PRODUCT INFORMATION

VU0155069

Item No. 13206

Formal Name:	N-[2-[4-(5-chloro-2,3-dihydro-2-oxo-1H-benzimidazol-1-yl)-1-piperidinyl]-1-methylethyl]-2-naphthalenecarboxamide
Synonym:	CAY10593
MF:	$C_{26}H_{27}ClN_4O_2$
FW:	463.0
Purity:	≥95%
UV/Vis.:	λ_{max}: 212, 232, 292 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

VU0155069 is supplied as a crystalline solid. A stock solution may be made by dissolving the VU0155069 in the solvent of choice, which should be purged with an inert gas. VU0155069 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of VU0155069 in these solvents is approximately 25 and 30 mg/ml, respectively.

VU0155069 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, VU0155069 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. VU0155069 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Phospholipase D (PLD) is an enzyme which cleaves the head group from phospholipids, producing the second messenger phosphatidic acid. Two mammalian isoforms of PLD, PLD_1 and PLD_2, have been identified, with multiple splice variants of each. Although the two isoforms share structural and functional features, they are regulated differently and apparently subserve distinct roles. VU0155069 is a potent and selective inhibitor of phospholipase D (PLD)1, both *in vitro* (IC_{50} = 46 nM) and in cells (IC_{50} = 11 nM).[1] It is also effective as a PLD_2 inhibitor at higher concentrations (IC_{50} = 933 nM *in vitro*; 1,800 nM in cells).[1] VU0155069 strongly inhibits the invasive migration of several breast cancer cell lines in transwell assays, suggesting that PLD might be a useful target in blocking tumor cell invasion.[1]

Reference

1. Scott, S.A., Selvy, P.E., Buck, J.R., *et al.* Design of isoform-selective phospholipase D inhibitors that modulate cancer cell invasiveness. *Nat. Chem. Biol.* **5(2)**, 108-117 (2009).

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