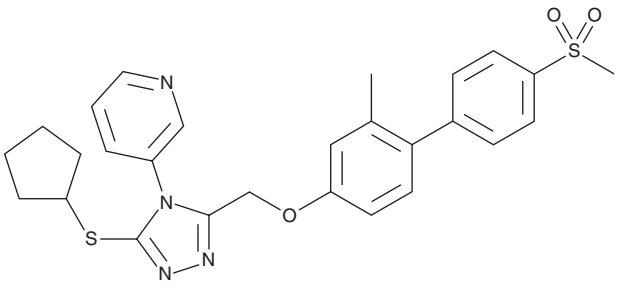
PRODUCT INFORMATION

NMS-873

Item No. 17674

CAS Registry No.:	1418013-75-8
Formal Name:	3-[3-(cyclopentylthio)-5-[[[2-methyl-4'-(methylsulfonyl)[1,1'-biphenyl]-4-yl]oxy]methyl]-4H-1,2,4-triazol-4-yl]-pyridine
Synonym:	VCP Inhibitor III
MF:	$C_{27}H_{28}N_4O_3S_2$
FW:	520.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 266 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

NMS-873 is supplied as a crystalline solid. A stock solution may be made by dissolving the NMS-873 in the solvent of choice, which should be purged with an inert gas. NMS-873 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NMS-873 in ethanol is approximately 0.5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

NMS-873 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NMS-873 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NMS-873 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The p97 AAA (ATPase associated with diverse cellular activities) is a ubiquitin-selective chaperone known to play a critical role in the degradation of misfolded membrane and secretory proteins and has been linked to various cellular processes that require unfolding and disassembly of protein complexes.[1] Valosin-containing protein (VCP), also known as VCP/p97, is an AAA ATPase family member that serves as an integral component of the ubiquitin fusion degradation pathway and is overexpressed in many tumor types. NMS-873 is a VCP inhibitor (IC_{50} = 24 nM) that demonstrates potent selectivity for VCP/p97 compared to a panel of other AAA ATPases, Hsp90, and 53 additional analyzed kinases (IC_{50}s >10 µM).[2] It has been shown to inhibit the proliferation of HCT116 cancer cells with an IC_{50} value of 380 nM.[2]

References

1. Chou, T.F. and Deshaies, R.J. Development of p97 AAA ATPase inhibitors. *Autophagy* **7(9)**, 1091-1092 (2011).
2. Polucci, P., Magnaghi, P., Angiolini, M., *et al.* Alkylsulfanyl-1,2,4-triazoles, a new class of allosteric valosine containing protein inhibitors. Synthesis and structure-activity relationships. *J. Med. Chem.* **56(2)**, 437-450 (2013).

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