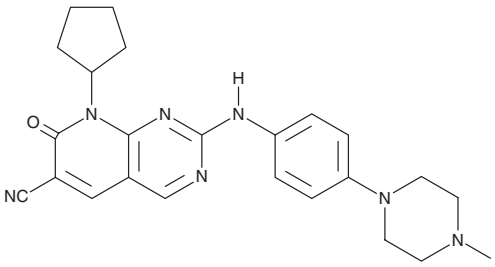
PRODUCT INFORMATION

ON-123300

Item No. 19902

CAS Registry No.:	1357470-29-1
Formal Name:	8-cyclopentyl-7,8-dihydro-2-[[4-(4-methyl-1-piperazinyl)phenyl]amino]-7-oxo-pyrido[2,3-d]pyrimidine-6-carbonitrile
MF:	$C_{24}H_{27}N_7O$
FW:	429.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 224, 269, 315, 392 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

ON-123300 is supplied as a crystalline solid. A stock solution may be made by dissolving the ON-123300 in the solvent of choice. ON-123300 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ON-123300 in these solvents is approximately 0.25, 10, and 16 mg/ml, respectively.

ON-123300 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ON-123300 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. ON-123300 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ON-123300 is a multi-kinase inhibitor.[1,2] It inhibits ARK5, Cdk4, and Cdk6 (IC_{50}s = 3.87, 9.82, and 4.95 nM, respectively) as well as FYN, PDGFRβ, Abl, and PI3Kδ (IC_{50}s = 11.09, 26, 53.32, and 144 nM, respectively) among others.[2] It inhibits proliferation in a panel of 38 cancer cell lines (GI_{50}s = 0.05-5 µM).[2] ON-123300 also inhibits proliferation of U87 glioma cells (IC_{50} = 3.4 µM), decreases phosphorylation of Akt and activates ERK, as well as halts the cell cycle in the G_2/M phase and induces apoptosis.[1] When used in combination with the EGFR inhibitor gefitinib (Item No. 13166), it synergistically induces cytotoxicity of U87, U87 VIII, and U87 PTEN cells. ON-123300 reduces tumor growth in an MDA-MB-231 mouse xenograft model when administered at a dose of 50 mg/kg every other day.[2]

References

1. Zhang, X., Lv, H., Zhou, Q., *et al.* Preclinical pharmacological evaluation of a novel multiple kinase inhibitor, ON123300, in brain tumor models. *Mol. Cancer Ther.* **13(5)**, 1105-1116 (2014).
2. Reddy, M.V.R., Akula, B., Conseza, S.C., *et al.* Discovery of 8-cyclopentyl-2-[4-(4-methyl-piperazin-1-yl)-phenylamino]-7-oxo-7,8-dihydro-pyrido[2,3-d]pyrimidine-6-carbonitrile (7x) as a potent inhibitor of cyclin-dependent kinase 4 (CDK4) and AMPK-related kinase 5 (ARK5). *J. Med. Chem.* **57(3)**, 578-599 (2014).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM