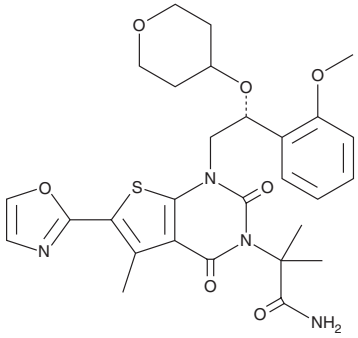
PRODUCT INFORMATION

ND-646

Item No. 34764

CAS Registry No.:	1434639-57-2
Formal Name:	1,4-dihydro-1-[(2R)-2-(2-methoxyphenyl)-2-[(tetrahydro-2H-pyran-4-yl)oxy]ethyl]-α,α,5-trimethyl-6-(2-oxazolyl)-2,4-dioxo-thieno[2,3-d]pyrimidine-3(2H)-acetamide
MF:	$C_{28}H_{32}N_4O_7S$
FW:	568.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 244, 312 nm
Supplied as:	A 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

ND-646 is supplied as a solid. A stock solution may be made by dissolving the ND-646 in the solvent of choice, which should be purged with an inert gas. ND-646 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ND-646 in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

ND-646 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ND-646 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ND-646 has a solubility of approximately 0.20 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ND-646 is an inhibitor of acetyl-CoA carboxylase 1 (ACC1) and ACC2 (IC_{50}s = 3.5 and 4.1 nM, respectively, for the human enzymes).[1] It inhibits the production of palmitate and reduces the total fatty acid content in A549 non-small cell lung cancer (NSCLC) cells when used at a concentration of 500 nM. ND-646 (500 nM) induces apoptosis and endoplasmic reticulum (ER) stress in A549 cells. It inhibits fatty acid synthesis and reduces tumor growth in an A549 mouse xenograft model when administered at a dose of 25 mg/kg twice per day.

Reference

1. Svensson, R.U., Parker, S.J., Eichner, L.J., *et al*. Inhibition of acetyl-CoA carboxylase suppresses fatty acid synthesis and tumor growth of non-small-cell lung cancer in preclinical models. *Nat. Med.* **22(10)**, 1108-1119 (2016).

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