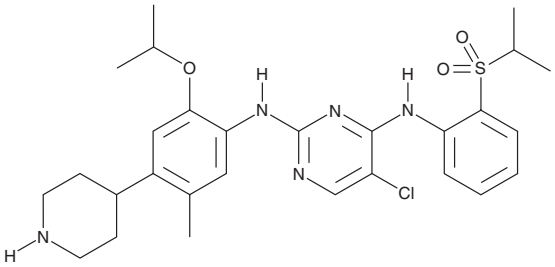
PRODUCT INFORMATION

Ceritinib

Item No. 19374

CAS Registry No.: 1032900-25-6
Formal Name: 5-chloro-N^4-[2-[(1-methylethyl) sulfonyl]phenyl]-N^2-[5-methyl-2-(1-methylethoxy)-4-(4-piperidinyl) phenyl]-2,4-pyrimidinediamine
Synonym: LDK 378
MF: $C_{28}H_{36}ClN_5O_3S$
FW: 558.1
Purity: ≥98%
UV/Vis.: λ_{max}: 277, 303 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

Ceritinib is supplied as a crystalline solid. A stock solution may be made by dissolving the ceritinib in the solvent of choice, which should be purged with an inert gas. Ceritinib is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ceritinib in these solvents is approximately 16, 1, and 12 mg/ml, respectively.

Ceritinib is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ceritinib should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Ceritinib 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

Ceritinib is an inhibitor of anaplastic lymphoma kinase (ALK; IC_{50} = 0.2 nM).[1] It is selective for ALK over IGF-1R, InsR, STK22D, and FLT3 (IC_{50}s = 8, 7, 23, and 60 nM, respectively) as well as a panel of 25 additional kinases (IC_{50}s = >0.26 µM for all). Ceritinib inhibits the proliferation of Ba/F3 cells expressing the fusion protein nucleophosmin-ALK (NPM-ALK) or echinoderm microtubule-associated protein-like 4-ALK (ELM4-ALK; IC_{50}s = 0.02 and 0.021 µM, respectively), as well as several crizotinib-resistant NPM-ALK and ELM4-ALK mutants.[2] It reduces tumor growth in an H2228 non-small cell lung cancer (NSCLC) rat xenograft model when administered at a dose of 10 mg/kg per day and induces tumor regression at 25 mg/kg per day.[3] Ceritinib (25 and 50 mg/kg per day) also induces tumor regression in a Karpas299 lymphoma rat xenograft model. Formulations containing ceritinib have been used in the treatment of ALK-positive metastatic NSCLC.

Reference

1. Marsilje, T.H., Pei, W., Chen, B., *et al.* Synthesis, structure-activity relationships, and in vivo efficacy of the novel potent and selective anaplastic lymphoma kinase (ALK) inhibitor 5-chloro-N2-(2-isopropoxy-5-methyl-4-(piperidin-4-yl)phenyl)-N4-(2-(isopropylsulfonyl)phenyl)pyrimidine-2,4-diamine (LDK378) currently in phase 1 and phase 2 clinical trials. *J. Med. Chem.* **56(14)**, 5675-5690 (2013).
2. Fontana, D., Ceccon, M., Gambacorti-Passerini, C., *et al.* Activity of second-generation ALK inhibitors against crizotinib-resistant mutants in an NPM-ALK model compared to EML4-ALK. *Cancer Med.* **4(7)**, 953-965 (2016).

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