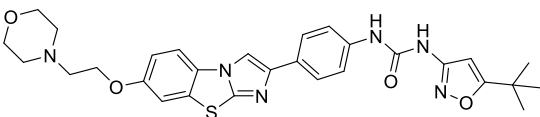


Product data sheet



MedKoo Cat#: 206700 Name: Quizartinib freebase CAS: 950769-58-1 (free base) Chemical Formula: C ₂₉ H ₃₂ N ₆ O ₄ S Exact Mass: 560.2206 Molecular Weight: 560.673		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Quizartinib, also known as AC220 and AC010220, is a highly potent FMS-like receptor tyrosine kinase-3 (FLT3) inhibitor. It inhibits FLT3 activity and displays antitumor properties in a mouse MV4-11 tumor xenograft model.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	56.07	100

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.78 mL	8.92 mL	17.84 mL
5 mM	0.36 mL	1.78 mL	3.57 mL
10 mM	0.18 mL	0.89 mL	1.78 mL
50 mM	0.04 mL	0.18 mL	0.36 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Wang F, Huang J, Guo T, Zheng Y, Zhang L, Zhang D, Wang F, Naren D, Cui Y, Liu X, Qu Y, Luo H, Yang Y, Wei H, Guo Y. Homoharringtonine synergizes with quizartinib in FLT3-ITD acute myeloid leukemia by targeting FLT3-AKT-c-Myc pathway. *Biochem Pharmacol.* 2021 Jun;188:114538. doi: 10.1016/j.bcp.2021.114538. Epub 2021 Apr 6. PMID: 33831397.
- Gunawardane RN, Nepomuceno RR, Rooks AM, Hunt JP, Ricono JM, Belli B, Armstrong RC. Transient exposure to quizartinib mediates sustained inhibition of FLT3 signaling while specifically inducing apoptosis in FLT3-activated leukemia cells. *Mol Cancer Ther.* 2013 Apr;12(4):438-47. doi: 10.1158/1535-7163.MCT-12-0305. Epub 2013 Feb 14. PMID: 23412931.

In vivo study

- Darici S, Jørgensen HG, Huang X, Serafin V, Antolini L, Barozzi P, Luppi M, Forghieri F, Marmioli S, Zavatti M. Improved efficacy of quizartinib in combination therapy with PI3K inhibition in primary FLT3-ITD AML cells. *Adv Biol Regul.* 2023 May 23;89:100974. doi: 10.1016/j.jbior.2023.100974. Epub ahead of print. PMID: 37245251.
- Swaminathan M, Kantarjian HM, Levis M, Guerra V, Borthakur G, Alvarado Y, DiNardo CD, Kadia T, Garcia-Manero G, Ohanian M, Daver N, Konopleva M, Pemmaraju N, Ferrajoli A, Andreeff M, Jain N, Estrov Z, Jabbour EJ, Wierda WG, Pierce S, Pinsoy MR, Xiao L, Ravandi F, Cortes JE. A phase I/II study of the combination of quizartinib with azacitidine or low-dose cytarabine for the treatment of patients with acute myeloid leukemia and myelodysplastic syndrome. *Haematologica.* 2021 Aug 1;106(8):2121-2130. doi: 10.3324/haematol.2020.263392. PMID: 33853292; PMCID: PMC8327731.

Product data sheet



7. Bioactivity

Biological target:

Quizartinib is an orally available FLT3 / STK1 inhibitor ($K_d = 1.6$ nM, $IC_{50} = 0.56$ nM in MV4-11 cell proliferation assay). Displays >10-fold selectivity for FLT3 over panel of 400 kinases.

In vitro activity

FLT3 inhibitors have been developed to treat patients with FLT3-ITD acute myeloid leukemia (AML); however, when used alone, their efficacy is insufficient. Homoharringtonine synergizes with quizartinib to inhibit cell growth/viability and induce cell-cycle arrest and apoptosis in FLT3-ITD AML cells in vitro. Homoharringtonine combined with quizartinib may be a promising treatment strategy for patients with FLT3-ITD AML, improving positive prognosis.

Reference: Biochem Pharmacol. 2021 Jun;188:114538. <https://pubmed.ncbi.nlm.nih.gov/33831397/>

In vivo activity

AML is a heterogeneous hematopoietic malignancy with poor outcomes. This study investigated the preclinical efficacy of the combination of quizartinib with the pan PI3K inhibitor BAY-806946 in FLT3-ITD cell lines and primary cells from AML patients. BAY-806946 enhanced quizartinib cytotoxicity and this combination increased the ability of quizartinib to kill CD34⁺ CD38⁻ leukemia stem cells while sparing normal hematopoietic stem cells.

Reference: Adv Biol Regul. 2023 May 23;89:100974. <https://pubmed.ncbi.nlm.nih.gov/37245251/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.