DRUG NAME: Quizartinib

SYNONYM(S)[1]: AC010220 2HCl, AC220 2HCL, quizartinib dihydrochloride

COMMON TRADE NAME(S): VANFLYTA®

CLASSIFICATION: molecular targeted therapy

Special pediatric considerations are noted when applicable, otherwise adult provisions apply.

MECHANISM OF ACTION:

Quizartinib is an orally administered, second generation small molecule inhibitor of FMS-like tyrosine kinase 3 (FLT3). Quizartinib and its active metabolite (AC886) selectively inhibit FLT3 receptor signaling, preventing cell proliferation driven by FLT3-internal tandem duplication (ITD) mutation and inducing apoptosis in tumour cells. Quizartinib has demonstrated antitumour activity in tumours harbouring FLT3-ITD.[2-4]

PHARMACOKINETICS:

Oral Absorption	bioavailability = 71%; T_{max}= 4 h; administration with a high fat meal had no clinically meaningful effect on quizartinib pharmacokinetics compared to fasting	
Distribution	highly bound to plasma proteins	
	cross blood brain barrier?	no[5]
	volume of distribution	275 L
	plasma protein binding	≥99%
Metabolism	primarily metabolized by CYP 3A4/5 to produce its active metabolite (AC886) which is further metabolized by CYP 3A4/5	
	active metabolite(s)	AC886
	inactive metabolite(s)	no information found
Excretion	primarily eliminated via feces	
	urine	1.6%
	feces	76.3% (4% unchanged)
	terminal half life	quizartinib: 81 h AC886: 136 h
	clearance	2.2 L/h
Sex	no clinically significant differences	
Elderly	no clinically significant differences	
Ethnicity	no clinically significant differences	

Adapted from standard reference[2] unless specified otherwise.

USES:

Primary uses:

*Leukemia, acute myeloid

Other uses:

*Health Canada approved indication

Developed: 1 February 2026
Revised:

SPECIAL PRECAUTIONS:

Contraindications:
- congenital long QT syndrome or history of ventricular arrythmia or torsades de pointes[2];

Caution:
- ***QTc prolongation, torsades de pointes***, and ***cardiac arrest*** have been reported with quizartinib; correct preexisting electrolyte disturbances prior to treatment and monitor ECG and electrolytes[2]
- quizartinib should not be initiated in patients with ***QT/QTc interval*** greater than 450 msec[2]
- quizartinib dose reduction may be required for ***drug interactions*** involving the CYP 3A4/5 metabolic pathway[2]

Carcinogenicity: Carcinogenicity studies have not been conducted[2]

Mutagenicity: Quizartinib was mutagenic in Ames test, but not in mammalian *in vitro* mutation tests. Quizartinib was not clastogenic in mammalian *in vitro* and *in vivo* chromosome tests. In a 28-day *in vivo* chromosome test, quizartinib produced equivocal results.[2]

Fertility: In animal studies, adverse findings in female and male reproductive systems were observed. In female monkeys, atrophy of the uterus, ovary, and vagina were observed at exposures approximately 0.2 times the expected human exposure with clinically recommended doses. In female rats, ovarian cysts and vaginal mucosal modifications were observed at exposures approximately 8 times higher than the expected human exposure with clinically recommended doses. In male monkeys, germ cell depletion in the testes were observed at exposures approximately 0.4 times the expected human exposure with clinically recommended doses. In male rats, decreased testis weight, testicular seminiferous tubular degeneration, failure of sperm release, oligospermia, and aspermia were observed at exposures approximately 6 times higher than the expected human exposure with clinically recommended doses. All findings in both sexes were reversible after one month of recovery, except for the vaginal mucosal modifications.[2,6]

Pregnancy: In animal studies where quizartinib was administered during organogenesis, fetotoxicity and teratogenicity were observed at exposures approximately 3 times the expected human exposure with maximum recommended human doses. Observed effects included decreased fetal weight, effects on skeletal ossification, edema, and structural abnormalities. Embryo-fetal lethality and increased post-implantation loss were observed at higher test doses.[2,6] Pregnancy tests are recommended prior to starting treatment. For females of childbearing potential, contraception is recommended during treatment and for at least 7 months after the last dose. For male patients with female partners of reproductive potential, contraception is recommended during treatment and for at least 4 months after the last dose of quizartinib.[2]

Breastfeeding is not recommended due to the potential secretion into breast milk. Women should not breastfeed during treatment and for 5 weeks after the last dose of quizartinib.[2]

SIDE EFFECTS:

The table includes adverse events that presented during drug treatment but may not necessarily have a causal relationship with the drug. Because clinical trials are conducted under very specific conditions, the adverse event rates observed may not reflect the rates observed in clinical practice. Adverse events are generally included if they were reported in more than 1% of patients in the product monograph or pivotal trials, and/or determined to be clinically important.[7,8]

Developed: 1 February 2026
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ORGAN SITE	SIDE EFFECT
Clinically important side effects are in ***bold, italics***	
blood and lymphatic system/ febrile neutropenia	anemia (38%, severe 30%)
	febrile neutropenia (33%, severe 30%)
	leukopenia (19%, severe 17%)
	neutropenia (34%, severe 32%)
	pancytopenia (6%, severe 5%)
	thrombocytopenia (40%, severe 35%)
cardiac (see paragraph following **Side Effects** table)	***cardiac arrhythmias*** (13%, severe <1%)[9]; includes ventricular tachycardia
	cardiac failure (2-5%, severe <1%)[9]
gastrointestinal	*emetogenic potential:* low[10,11]
	abdominal pain (22%, severe 2%)
	constipation (20%)
	diarrhea (29%, severe 2%)
	nausea (26-48%, severe 2-3%)[9,12]
	vomiting (20-34%, severe 3%)[9,12,13]
	stomatitis (17%, severe 2%)
general disorders and administration site conditions	fatigue (40%, severe 8%)
	peripheral edema (21%, severe 1%)
	pyrexia (38%, severe 2%)
infections and infestations	***infections*** (63-76%)[9]
	cellulitis (6%, severe 3%)
	pneumonia (16%, severe 12%)
	sepsis/septic shock (21%, severe 19%)
	upper respiratory tract infection (9%, severe 2%)
	urinary tract infection (10%, severe 4%)
investigations	ALT increase (14%, severe 4%); mostly transient, asymptomatic
	AST increase (11%, severe 1%)[13]; mostly transient, asymptomatic
	QTc prolongation (26%, severe 4%); see paragraph following **Side Effects** table
	weight loss (12%, severe <1%)
metabolism and nutrition	appetite decrease (20%, severe 2%)
	hypocalcemia (13%, severe 1%)
	hypokalemia (33%, severe 12%)
	hypomagnesemia (15%)
	hyponatremia (9%, severe <1%)
	hypophosphatemia (10%, severe 4%)

Developed: 1 February 2026
Revised:

ORGAN SITE	SIDE EFFECT
Clinically important side effects are in ***bold, italics***	
musculoskeletal and connective tissue	musculoskeletal pain (38%, severe 4%)
nervous system	dizziness (15%)
	dysgeusia (10-16%)[9]
	headache (22%, severe <1%)
	intracranial hemorrhage (3%, severe 3%); fatalities reported
	syncope (5%, severe 4%)
renal and urinary	acute renal failure (6%, severe 1%)
respiratory, thoracic, and mediastinal	cough (23%, severe <1%)
	dyspnea (20%, severe 5%)
	epistaxis (15%, severe 1%)[2]
skin and subcutaneous tissue	petechiae (11%, severe 1%)
	rash (22%, severe 2%)
vascular	hypotension (14%, severe 3%)

Adapted from standard reference[12] unless specified otherwise.

Quizartinib causes ***QTc prolongation*** in a dose dependent manner. Torsades de pointes, cardiac arrest, ventricular fibrillation, and sudden death have been reported in patients treated with quizartinib. Serious cardiac arrhythmias have occurred predominantly during the induction phase when quizartinib was used in combination regimens.[6] Most drugs prolong the QTc by inhibiting the rapid delayed rectifier potassium current (I_{Kr}). However, unlike most drugs, quizartinib prolongs QTc interval by inhibiting the slow delayed rectifier potassium current (I_{Ks}). Therefore, the QTc threshold that predicts cardiac arrhythmia risk with quizartinib is not yet established. Obtain baseline ECG and correct electrolyte abnormalities prior to initiating quizartinib and monitor regularly throughout treatment. More frequent monitoring is recommended for patients with known risk factors for QTc prolongation or torsades de pointes (e.g., congestive heart failure, known drug interactions, etc.). Quizartinib dose reduction is recommended when used concomitantly with strong CYP3A4/5 inhibitors, as they may increase quizartinib exposure. Avoid concurrent therapy with other QT prolonging drugs or drugs which disrupt electrolytes, if possible, as these may increase the risk of potentially fatal arrhythmias. Management of QTc prolongation may include quizartinib dose interruption and/or dose reduction. Withhold quizartinib for grade 3 or 4 hypokalemia or hypomagnesemia until electrolyte levels are corrected. Permanently discontinue quizartinib for life-threatening arrhythmias.[2,6]

INTERACTIONS:

AGENT	EFFECT	MECHANISM	MANAGEMENT
efavirenz[2]	90% decrease in *quizartinib* AUC and 45% decrease in C_{max}; 96% decrease in *AC886* AUC and 68% decrease in C_{max}	moderate induction of CYP 3A4 by efavirenz	avoid concurrent use

Developed: 1 February 2026
Revised:

AGENT	EFFECT	MECHANISM	MANAGEMENT
fluconazole[2]	no clinically meaningful changes in quizartinib AUC and C_{max}	moderate inhibition of CYP 3A4 by fluconazole	no dose adjustment of quizartinib is required
ketoconazole[2]	94% increase in quizartinib AUC and 17 % increase in C_{max} when administered with a single dose of quizartinib	strong inhibition of CYP 3A4/5 by ketoconazole	if concurrent use cannot be avoided, reduce quizartinib dose (see table below for suggested dose reduction); monitor for quizartinib toxicity and QTc prolongation
lansoprazole[2]	no clinically meaningful changes in quizartinib AUC and C_{max}	pH-dependent solubility of quizartinib	no dose adjustment of quizartinib is required
rifampin[13]	*predicted*: 72% decrease in quizartinib AUC and 66% decrease in AC886 AUC	strong induction of CYP 3A4 by rifampin	avoid concurrent use

Quizartinib is a substrate of CYP 3A4/5. Concurrent use of quizartinib with a *moderate* CYP 3A4 inhibitor did not result in clinically significant changes in quizartinib exposure. *Strong* ***CYP 3A4/5 inhibitors*** may increase the plasma concentration of quizartinib. If concurrent use with a *strong* CYP 3A4/5 inhibitor cannot be avoided, reduce quizartinib dose (see table below for suggested dose reduction). Monitor for quizartinib toxicity including QTc prolongation.[2] When the strong CYP 3A4/5 inhibitor is discontinued, quizartinib may be resumed at the prior dose after a period of time equal to five half-lives of the inhibitor has elapsed.[6]

Planned Quizartinib Dose	Suggested Quizartinib Dose Reduction[2] coadministered with ***STRONG*** CYP 3A4/5 Inhibitor
53 mg once daily	26.5 mg once daily
35.4 mg once daily	17.7 mg once daily
26.5 mg once daily	17.7 mg once daily
17.7 mg once daily	Withhold quizartinib for the duration of strong CYP 3A4/5 inhibitor use[2,6]

CYP 3A4 inducers may decrease the plasma concentration of quizartinib. Avoid concurrent use with strong or moderate CYP 3A4 inducers.[2]

In vitro, quizartinib is both a substrate and an inhibitor of P-gp, as well as an inhibitor of UGT1A1 and BCRP. No clinically meaningful interactions have been reported.[2]

SUPPLY AND STORAGE:

Oral: Daiichi Sankyo Pharma Canada Ltd. supplies quizartinib as 17.7 mg and 26.5 mg film-coated tablets (equivalent to 20 mg and 30 mg quizartinib hydrochloride, respectively). Store at room temperature.[2,6]

Additional information: Quizartinib tablets are packaged in blister cards containing 14 tablets per card. For induction and consolidation, one blister card is equivalent to 1 week supply at usual doses. For maintenance therapy, one blister card is equivalent to 1 to 2 week(s) supply. Each carton contains 1, 2, or 4 blister card(s).[2]

DOSAGE GUIDELINES:

Refer to protocol by which patient is being treated. Numerous dosing schedules exist and depend on disease, response, and concomitant therapy. Guidelines for dosing also include consideration of absolute neutrophil count

Developed: 1 February 2026
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(ANC). Dosage may be reduced, delayed or discontinued in patients with bone marrow depression due to cytotoxic/radiation therapy or with other toxicities.

***Adults*:**

BC Cancer usual dose noted in ***bold, italics***

	Cycle Length:	
Oral [2,3]:	4 weeks:	**Induction:** 35.4 mg (range 17.7-35.4 mg)* PO once daily for 14 consecutive days starting on day 8.[8] (Refer to protocol by which patient is being treated.)
	4 weeks:	**Consolidation**: 35.4 mg (range 17.7-35.4 mg)* PO once daily for 14 consecutive days starting on day 6 or 7.[8] (Refer to protocol by which patient is being treated.)
	n/a:	**Maintenance:** 26.5 mg (range 17.7-53 mg)* PO once daily Starting dose is 26.5 mg PO once daily. If QTc is ≤450 msec after 14 days, dose may be increased to 53 mg PO once daily. Do NOT escalate maintenance dose if QTc >500 msec has been observed during induction or consolidation cycles. (Refer to protocol by which patient is being treated.) *dose adjustment may be required for some drug interactions Administer with food or on an empty stomach, approximately the same time every day.
	Patients proceeding to hematopoietic stem cell transplantation (HSCT) should stop quizartinib one week before HSCT conditioning regimen.	
Concurrent radiation:	no information found	
Dosage in myelosuppression:	modify according to protocol by which patient is being treated	
Dosage in renal failure:	CrCl ≥30 mL/min: no adjustment required[2] CrCl <30 mL/min: no information found calculated creatinine clearance = $\frac{N^* \times (140 - Age) \times \text{weight in kg}}{\text{serum creatinine in micromol/L}}$ * For males N=1.23; for females N=1.04	
Dosage in hepatic failure:	mild or moderate impairment (Child-Pugh A or B; total bilirubin ≤3 x ULN): no adjustment required[2] severe impairment (Child-Pugh C; total bilirubin >3 x ULN): no information found	
Dosage in dialysis:	no information found	

***Children*:** safety and efficacy has not been established

Developed: 1 February 2026
Revised:

REFERENCES:

1. Lexi-Drugs® (database on the Internet). Quizartinib. UpToDate® Lexidrug®; Accessed November 25, 2025. Updated November 11, 2025. Available at: http://online.lexi.com
2. Daiichi Sankyo Pharma Canada Ltd. VANFLYTA® product monograph. Toronto, Ontario; June 9, 2025.
3. Erba HP, Montesinos P, Kim H, et al. Quizartinib plus Chemotherapy in Newly Diagnosed Patients with FLT3-internal-tandem-duplication-positive Acute Myeloid Leukaemia (QuANTUM-First): a Randomised, Double-blind, Placebo-controlled, Phase 3 trial. The Lancet ; 2023;401(10388):1571–1583
4. Gunawardane RN, Nepomuceno RR, Rooks AM, et al. Transient Exposure to Quizartinib Mediates Sustained Inhibition of FLT3 Signaling while Specifically Inducing Apoptosis in FLT3-Activated Leukemia Cells. Molecular Cancer Therapeutics ; 2013;12(4):438–447
5. Suga M, Fukushima K, Ueda T, et al. Clinical Implications of Combination Therapy with Quizartinib and Craniospinal Irradiation for Refractory Acute Myeloid Leukemia Positive for FMS-like Tyrosine Kinase 3-Internal Tandem Duplication with Central Nervous System Involvement. Clinical Case Reports ; 2022;10(2):e05384
6. Daiichi Sankyo Inc. VANFLYTA® full prescribing information. Basking Ridge, NJ, USA; June 25, 2024.
7. Robert Tillmanns, Tumour Group Pharmacist. Provincial Pharmacy. Personal Communication. December 30, 2025.
8. David Sanford MD. BC Cancer Leukemia and Bone Marrow Transplant Tumour Group. Personal communication. January 2, 2026.
9. Cortes JE, Ganguly S, Krämer A, et al. Pooled Safety Analysis of Quizartinib Monotherapy in Patients with Relapsed/Refractory (R/R) Acute Myeloid Leukemia (AML). Blood ; 2019;134(Supplement_1):1372
10. National Comprehensive Cancer Network. NCCN Practice Guidelines in Oncology - Antiemesis v.2.2025. NCCN; Accessed December 11, 2025. Updated January 25, 2023. Available at: https://www.nccn.org
11. BC Cancer Supportive Care Tumour Group. (SCNAUSEA) BC Cancer Guidelines for Prevention and Treatment of Chemotherapy-Induced Nausea and Vomiting in Adults. Vancouver, British Columbia: BC Cancer; September 1 , 2022.
12. Cortes JE, Khaled S, Martinelli G, et al. Quizartinib versus Salvage Chemotherapy in Relapsed or Refractory FLT3-ITD Acute Myeloid Leukaemia (QuANTUM-R): a Multicentre, Randomised, Controlled, Open-label, Phase 3 trial. The Lancet Oncology ; 2019;20(7):984–997
13. European Medicines Agency. Committe for Medicinal Products for Human Use (CHMP). Assessment Report - VANFLYTA (quizartinib). Amsterdam, The Netherlands; October 17, 2019. http://www.ema.europa.eu/ema/

Developed: 1 February 2026
Revised: