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DATASHEET

Pexidartinib (PLX3397)

Product overview

Name	Pexidartinib (PLX3397)
Cat No	HB8991
Biological action	Inhibitor
Purity	>98%
Description	Potent CSF-1R inhibitor. Widely used microglia-depletion agent.

Biological Data

Biological description	Potent CSF-1R inhibitor ($IC_{50} = 20$ nM). Reduces system and local macrophages accumulation without affecting Gr-1+ myeloid derived suppressor cells in the B16F10 mouse melanoma model. Promotes tumor growth control in combination with CD8 T-cell immunotherapy and improves adoptive cell therapy efficacy in the BRAF ^{V600E} -driven mouse melanoma model. Orally bioavailable. Recently reported to eliminate brain microglial temporarily and recoverably in adult mice.
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Solubility & Handling

Storage instructions	-20 °C
Solubility overview	Soluble in DMSO (100 mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	N-[5-[(5-Chloro-1H-pyrrolo[2,3-b]pyridin-3-yl)methyl]-2-pyridinyl]-6-(trifluoromethyl)-3-pyridinemethanamine
Molecular Weight	417.82
Chemical structure	The chemical structure of Pexidartinib (PLX3397) is shown. It features a central 2-pyridine ring substituted at the 5-position with a (5-chloro-1H-pyrrolo[2,3-b]pyridin-3-yl)methyl group and at the 6-position with a (trifluoromethyl)-3-pyridinemethanamine group.
Molecular Formula	C ₂₀ H ₁₅ ClF ₃ N ₅
CAS Number	1029044-16-3
PubChem identifier	25151352
SMILES	C1=CC(=NC=C1CC2=CNC3=C2C=C(C(=N3)Cl)NCC4=CN=C(C(=C4)C(F)(F)F)
InChi	InChI=1S/C20H15ClF3N5/c21-15-6-16-14(10-28-19(16)29-11-15)5-12-2-4-18(26-7-12)27-9-13-1-3-17(25-8-13)20(22,23)24/h1-4,6-8,10-11H,5,9H2,(H,26,27)(H,28,29)
InChiKey	JGWRKYUXBBNENE-UHFFFAOYSA-N
MDL number	MFCD28900745

References

Pexidartinib (PLX3397) through restoring hippocampal synaptic plasticity ameliorates social isolation-induced mood disorders.

Wang L et al (2022) International immunopharmacology 113

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Pexidartinib, a Novel Small Molecule CSF-1R Inhibitor in Use for Tenosynovial Giant Cell Tumor: A Systematic Review of Pre-Clinical and Clinical Development.

Benner B et al (2020) Drug design, development and therapy 14

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Inhibition of Colony Stimulating Factor 1 Receptor Suppresses Neuroinflammation and Neonatal Hypoxic-Ischemic Brain Injury.

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PubMedID [33679579](#)
