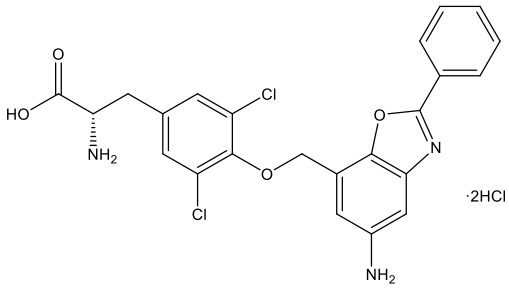
Catalog # 10-4464
JPH203
CAS# 1597402-27-1

(2S)-2-Amino-3-[4-[(5-amino-2-phenyl-1,3-benzoxazol-7-yl)methoxy]-3,5-dichlorophenyl]propanoic acid dihydrochloride; KYT-0353; Nanvuralant

Lot # FBA8082



JPH203 is a selective L-type amino acid transporter 1 inhibitor (LAT1 or SLC7A5; IC_{50} = 140 nM for ^{14}C-leucine uptake in S2-hLAT1 cells, and 60 nM for HT29 human colon adenocarcinoma cells: growth inhibition IC_{50}'s = 16.4 µM and 4.1 µM respectively for S2 and HT29 cells).[1] Also active in HT-29 mouse xenograft models. JPH203 is active in a variety of cancer models and has progressed to clinical trials.[2] It sensitized A549 and MIA Paca-2 cells to radiation by enhancing cellular senescence *via* mTOR downregulation[3] and sensitized EGFR-expressing cancer cell lines to gefitinib therapy[4]. JPH203 treatment of non-small cell lung cancer cells led to downregulation of PD-L1 suggesting that LAT1 inhibition may help overcome the immune suppressive tumor microenvironment.[5]

1) Oda *et al.* (2010) *L-type amino acid transporter 1 inhibitors inhibit tumor cell growth;* Cancer Sci. **101** 173
2) Kanai (2022) *Amino acid transporter LAT1 (SLC7A5) as a molecular target for cancer diagnosis and therapeutics;* Pharmacol. Ther. **230** 107964
3) Bo *et al.* (2021) *LAT1 inhibitor JPH203 sensitizes cancer cells to radiation by enhancing radiation-induced cellular senescence;* Transl. Oncol. **14** 101212
4) Saito *et al.* (2018), *Amino acid starvation culture condition sensitizes EGFR-expressing cancer cell lines to gefitinib-mediated cytotoxicity by inducing atypical necroptosis;* Int. J. Oncol. **52** 1165
5) Liu *et al.* (2021), *L-Type Amino Acid Transporter 1 Regulates Cancer Stemness and the Expression of Programmed Cell Death 1 Ligand 1 in Lung Cancer Cells;* Int. J. Mol. Sci. **22** 10955

PHYSICAL DATA

Molecular Weight:	545.24
Molecular Formula:	$C_{23}H_{19}Cl_2N_3O_4 \cdot 2HCl$
Purity:	>98% by HPLC NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Pale orange/yellow solid
Storage and Stability:	Store as supplied at -20ºC for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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