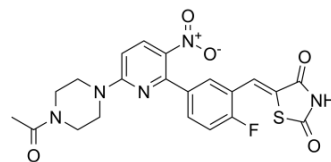


## GW604714X

Cat. No.:	HY-138559		
CAS No.:	853953-65-8		
Molecular Formula:	C <sub>21</sub> H <sub>18</sub> FN <sub>5</sub> O <sub>5</sub> S		
Molecular Weight:	471.46		
Target:	Mitochondrial Metabolism		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMF : 5.26 mg/mL (11.16 mM; Need ultrasonic and warming)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.1211 mL	10.6054 mL	21.2107 mL
	5 mM	0.4242 mL	2.1211 mL	4.2421 mL
	10 mM	0.2121 mL	1.0605 mL	2.1211 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

GW604714X is a potent inhibitor of mitochondrial respiration supported by pyruvate but not other substrates. GW604714X is a highly specific mitochondrial pyruvate carrier (MPC) inhibitor with a  $K_i < 0.1$  nM. GW604714X also inhibits L-lactate transport by the plasma membrane monocarboxylate transporter (MCT1), but at concentrations more than 4 orders of magnitude greater than the MPC<sup>[1]</sup>.

#### In Vitro

GW604714X inhibits the mitochondrial pyruvate carrier (MPC) with  $K_i$  value  $< 0.1$   $\mu$ M in direct measurement of pyruvate transport into rat liver and yeast mitochondria<sup>[1]</sup>.  
 Inhibitor titrations of pyruvate-dependent respiration by heart mitochondria gave values for the concentration of inhibitor binding sites and their  $K_i$  (nM) of 56.0 nM and 0.057 nM for the GW604714X<sup>[1]</sup>.  
 GW604714X inhibits the transport of 0.5 mM [<sup>14</sup>C]-L-lactate into rat red blood cells, mediated by the monocarboxylate transporter MCT1. GW604714X at 10  $\mu$ M reduces the initial rate of uptake to 30% of control values<sup>[1]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

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[1]. John C W Hildyard, et al. Identification and characterisation of a new class of highly specific and potent inhibitors of the mitochondrial pyruvate carrier. *Biochim Biophys Acta*. Apr-May 2005;1707(2-3):221-30.

[2]. Allen K. Bourdon, et al. Alzheimer's and Parkinson's Disease Novel Therapeutic Target: The Mitochondrial Pyruvate Carrier - Ligand Docking to Screen Natural Compounds Related to Classic Inhibitors. DOI:10.4018/IJKDB.2017070104

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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