Product Data Sheet

Product Name:	Picolinamide
Cat. No.:	GC14251

Chemical Properties

Cas. No.	1452-77-3		
Chemical Name	picolinamide		
SMILES	NC(C1=CC=CC=N1)=O		
Formula	$C_6H_6N_2O$	M.Wt	122.12
Solubility	≥ 83.3mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Picolinamide		

Background

Picolinamide is a poly (ADP-ribose) synthetase (PARP) inhibitor.

PARP inhibitors, a group of pharmacological inhibitors of the enzyme poly ADP ribose polymerase (PARP), are developed for multiple indications, especially for the treatment of cancer.

In vitro: The pathway of oxidation of picolinamide by a Gram-negative rod has been elucidated. Results showed that under high pH conditions, whole cells could release 2,5-dihydroxypyridine into culture supernatants. Moreover, sodium arsenite was able to cause whole cells to accumulate 6-hydroxypicolinate in the culture media. In addition, whole cells were found to oxidize picolinamide, without lag. It was also found that cell-free extracts could convert picolinamide into picolinate, and hydroxylate picolinate into 6-hydroxypicolinate [1].

In vivo: Picolinamide was used in a previous study to evaluate the possibility that the

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inhibition of Na+/phosphate cotransport might be associated with the inhibition of NAD hydrolyzing enzymes. Results showed that the overnight treatment of rats with picolinamide, administered as a single injection (4 mmol/kg), could inhibit Na+/phosphate cotransport by isolated renal brush border membrane vesicles. Similar to nicotinamide, the inhibition caused by picolinamide occurred in thyroparathyroidectomized rats, was specific for Na+/phosphate cotransport. Unlike nicotinamide, there was only a small 1.5-fold increase in renal cortical NAD content after picolinamide treatment [2].

Clinical trial: Up to now, picolinamide is still in the preclinical development stage.

References:
[1] C. G. Orpin,M. Knight, and W. C. Evans. The bacterial oxidation of picolinamide, a photolytic product of DiquatBiochem J. 1972 May; 127(5): 819–831.
[2] Campbell PI, al-Mahrouq HA,Abraham MI,Kempson SA. Specific inhibition of rat renal Na+/phosphate cotransport by picolinamide. J Pharmacol Exp Ther.1989 Oct;251(1):188-92.