
Product Data Sheet

Product Name: Trimidox
Cat. No.: GC13399

Chemical Properties

Cas. No. 95933-74-7

Chemical Name N,3,4,5-tetrahydroxy-benzenecarboximidamide

SMILES OC1=C(O)C(O)=CC(C(NO)=N)=C1

Formula $C_7H_8N_2O_4$ M.Wt 184.2

Solubility $\leq 20\text{mg/ml}$ in DMSO; 20mg/ml in dimethyl formamide Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C 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

Background

Trimidox (3,4,5-tri-hydroxybenzohydroxamidoxime) is a specific and patented ribonucleotide reductase (RNR) inhibitor [1].

Ribonucleotide reductase (RNR), also known as ribonucleoside diphosphate reductase, is an enzyme involved in catalyzing the formation of deoxyribonucleotides from ribonucleotides. RNR plays a vital role in regulating the total rate of DNA synthesis to DNA to maintain DNA cell mass a constant ratio during cell division and DNA repair. The substrates for RNR are ADP, GDP, CDP and UDP [2]. Increased ribonucleotide reductase (RNR) activity has been associated with malignant transformation and tumor cell growth [1].

In human promyelocytic leukemia HL-60 cells, trimidox inhibited the growth of with an IC_{50} of 35 pmol/L . Treatment with trimidox (50 pmol/L) for 24 hours decreased deoxyguanosine triphosphate (dGTP) and deoxycytidine triphosphate (dCTP) pools to 24% and 3946 of control values, respectively. Incubation of HL-60 cells with 20 to 80

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

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pmol/L trimidox to 4 days showed no effects in the distribution of cells indifferent phases of cell cycle [1]. Trimidox in combination with tiazofurin was useful in the treatment of leukemia [1].

References:

[1] Szekeres T, Fritzer M, Strobl H, et al. Synergistic growth inhibitory and differentiating effects of trimidox and tiazofurin in human promyelocytic leukemia HL-60 cells[J]. Blood, 1994, 84(12): 4316-4321.

[2] Elledge S J, Zhou Z, Allen J B. Ribonucleotide reductase: regulation, regulation, regulation[J]. Trends in biochemical sciences, 1992, 17(3): 119-123.

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