
Product Data Sheet

Product Name: 4,5,6,7-Tetrabromobenzimidazole
Cat. No.: GC16960

Chemical Properties

Cas. No. 577779-57-8

Chemical Name 4,5,6,7-tetrabromo-1H-benzimidazole

SMILES BrC1=C2C(N=CN2)=C(Br)C(Br)=C1Br

Formula $C_7H_2Br_4N_2$

M.Wt 433.7

Solubility DMSO: Soluble, Ethanol: Soluble

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

Ki: 0.5-1 μM

4,5,6,7-Tetrabromobenzimidazole is a CK2 inhibitor.

Casein kinase 2 (CK2), a constitutive protein kinase involved in many signal transduction pathways, is known to be able to negatively regulate apoptosis, and its activity is increased in various proliferating tissues and tumors.

In vitro: Previous study found that like the reported 4,5,6,7-tetrabromobenzotriazole (TBBt), the structurally related 4,5,6,7-tetrabromobenzimidazole (TBBz) was a selective ATP-competitive inhibitor of protein kinase CK2 from various sources including yeast, rat liver, *Neurospora crassa* and *Candida tropicalis*, with K(i) values in the range 0.5-1 μM. TBBz was found to be virtually inactive vs. PKA, PKC, and a very weak inhibitor of protein kinase CK1. TBBt was noted to be a more effective inhibitor of PK60S than of yeast CK2; by contrast, TBBz was a relatively feeble inhibitor of PK60S, thus more selective than

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

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TBBt vs. CK2 in yeast cells. Therefore, similar to TBBt, TBBz could be regarded as an additional lead compound for development of more potent inhibitors of CK2 [1].

In vivo: Up to now, there is no animal in vivo data reported.

Clinical trial: So far, no clinical study has been conducted.

Reference:

[1] Zien, P., Bretner, M., Zastapilo, K., et al. Selectivity of 4,5,6,7-tetrabromobenzimidazole as an ATP-competitive potent inhibitor of protein kinase CK2 from various sources. *Biochemical and Biophysical Research Communications* 306(1), 129-133 (2003).

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