
Product Data Sheet

Product Name: Tempo
Cat. No.: GC39512

Chemical Properties

Cas. No. 2564-83-2

SMILES CN1C(C)(C)CCCC1(C)C.[O]

Formula $C_9H_{18}NO$

M.Wt 156.25

Solubility DMSO: 100 mg/mL (583.84 mM)

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

Tempo is a classic nitroxide radical and is a selective scavenger of mitochondrial ROS that dismutates superoxide in the catalytic cycle. Tempo induces DNA-strand breakage. Tempo can be used as an organocatalyst for the oxidation of primary alcohols to aldehydes. Tempo has mutagenic and antioxidant effects[1][2][3][4].

[1]. Du K, et al. Mitochondria-targeted antioxidant Mito-Tempo protects against acetaminophen hepatotoxicity. Arch Toxicol. 2017 Feb;91(2):761-773. [2]. Guo X, et al. Comparative Genotoxicity of TEMPO and 3 of Its Derivatives in Mouse Lymphoma Cells. Toxicol Sci. 2018 May 1;163(1):214-225. [3]. Lv H, et al. TEMPO catalyzed oxidative dehydrogenation of hydrazobenzenes to azobenzenes. Org Biomol Chem. 2020 Apr 22. [4]. Chen X, et al. Isocitrate dehydrogenase 2 contributes to radiation resistance of oesophageal squamous cell carcinoma via regulating mitochondrial function and ROS/pAKT signalling. Br J Cancer. 2020 May 5.

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

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