

Product Data Sheet

Product Name: HQNO
Cat. No.: GC15529

Chemical Properties

Cas. No. 341-88-8

Chemical Name 2-heptyl-1-hydroxyquinolin-4(1H)-one

SMILES CCCCCCCC1=CC(C2=CC=CC=C2N1O)=O

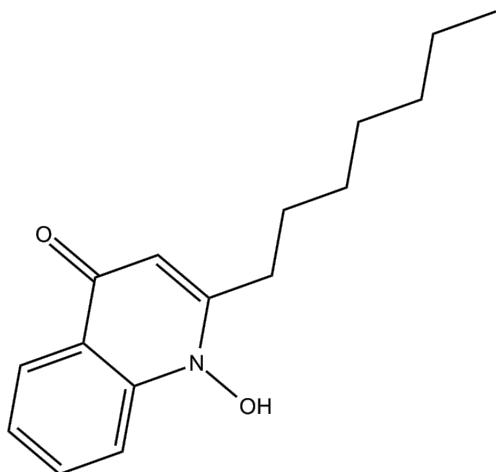
Formula $C_{16}H_{21}NO_2$ M.Wt 259.34

Solubility $\geq 25.9\text{mg/mL}$ in ETOH with gentle warming 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

HQNO is a NADH oxidase inhibitor.

The NADPH oxidase, a membrane-bound enzyme complex facing the extracellular space, can be found in the plasma membrane and in the membranes of phagosomes used by neutrophil white blood

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

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cells to engulf microorganisms. Isoforms are designated NOX1, NOX2, NOX3, as well as NOX4.

In vitro: Previous study found that HQNO could inhibit the Na⁺-dependent NADH oxidase but had very limited effect on the Na⁺-independent activity of mutant membranes. Moreover, the NADH:quinone oxidoreductase was observed to be the Na⁺-dependent HQNO-sensitive site of the NADH oxidase. In addition, HQNO was found to be able to cause a strong inhibition of the Na⁺ pump with limited effect on the overall H⁺ extrusion by respiration in the wild type cells. The inhibition of the Na⁺ pump by HQNO could be overcome by oxidized but not reduced TMPD. The electron flow NADH to oxygen appeared to bypass the HQNO-sensitive site and energize the Na⁺ pump in the presence of oxidised TMPD [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] Tokuda, H. , and Unemoto, T. Na⁺ is translocated at NADH:quinone oxidoreductase segment in the respiratory chain of *Vibrio alginolyticus*. The Journal of Biological Chemistry 259(12), 7785-7790 (1984).

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