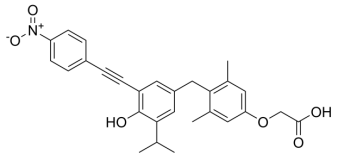
NH-3

Cat. No.:	HY-141513
CAS No.:	447415-26-1
Molecular Formula:	$C_{28}H_{27}NO_6$
Molecular Weight:	473.52
Target:	Thyroid Hormone Receptor
Pathway:	Vitamin D Related/Nuclear Receptor
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (211.18 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1118 mL	10.5592 mL	21.1184 mL
5 mM	0.4224 mL	2.1118 mL	4.2237 mL
10 mM	0.2112 mL	1.0559 mL	2.1118 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NH-3 is an orally active, reversible thyroid hormone receptor (THR) antagonist with an IC_{50} of 55 nM. NH-3, a derivative of the selective thyromi-metic GC-1, inhibits binding of thyroid hormones to their receptor and that inhibits cofactor recruitment[1][2][3]. NH-3 is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

IC_{50} & Target

IC50: 55 nM (THR)[1]

In Vivo

NH3 (46.2-27,700 nmol/kg/day; 7 days) decreases heart rate modestly starting at 46.2 nmol/kg/day, but the effect was lost at >2920 nmol/kg/day. NH3 has no effect on the cholesterol-lowering action of 46.2 nmol/kg/day T3, but it inhibits the tachycardic and TSH suppressant effects up to the 924 nmol/kg/day dose[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Latika Singh, et al. Chasing the Elusive Benzofuran Impurity of the THR Antagonist NH-3: Synthesis, Isotope Labeling, and Biological Activity. J Org Chem. 2016 Mar 4;81(5):1870-6.

[2]. Gary J Grover, et al. Pharmacological profile of the thyroid hormone receptor antagonist NH3 in rats. J Pharmacol Exp Ther. 2007 Jul;322(1):385-90.

[3]. Wayland Lim, et al. A thyroid hormone antagonist that inhibits thyroid hormone action in vivo. J Biol Chem. 2002 Sep 20;277(38):35664-70.

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