

Product Data Sheet

Product Name: Denatonium benzoate-d 5

Cat. No.: GC81510

Chemical Properties

Cas. No.

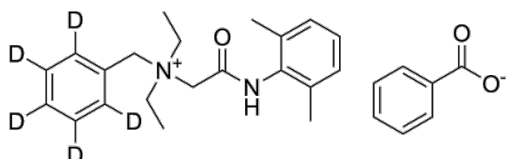
Formula $C_{28}H_{29}D_5N_2O_3$ M.Wt 451.61

Solubility Storage Store at -20°C, away from moisture

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

Denatonium benzoate -d 5 (THS-839-d 5) is the deuterium labeled Denatonium benzoate. Denatonium benzoate (THS-839) is known as the most bitter compound and is commonly used as a deterrent (bittering agent) to activate different types of bitter taste receptors (TAS2Rs) with oral activity. Denatonium benzoate can enhance insulin secretion, has anti-inflammatory effects, and promotes allergy susceptibility [1] [2] [3] [4].

In Vitro, Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration

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has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs.

References:

- [1]. Plamen I Zagorchev, et al. Denatonium benzoate decreases the effect of histamine in vitro and in rats. Tropical Journal of Pharmaceutical Research September.2020; 19 (9): 1879-1885.
- [2]. Huaping Xu, et al. Denatonium Benzoate Exposure Promotes IgE-Mediated Mast Cell Degranulation and Allergy By Upregulating FcεR1α Expression.Hypothesis. posted 29 Sep, 2021
- [3]. DALEE. KAUKKINEN, et al. Evaluation of aversive agents to increase the selectivity of rodenticides with emphasis on denatonium benzoate (Bitrex) bittering agent. eScholarship. Proceedings of the Vertebrate Pest Conference, 15(15)
- [4]. Weikun Huang, et al. Effects of a bitter substance, denatonium benzoate, on pancreatic hormone secretion. Am J Physiol Endocrinol Metab. 2024 Apr 1;326(4):E537-E544.

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