

Product Data Sheet

Product Name: Piperacillin-d5

Cat. No.: GC40090

Chemical Properties

Cas. No.

SMILES CC1(C)[C@H](C(O)=O)N2C([C@@H](NC([C@@H](C3=CC=CC=C3)NC(N4C(C(N(C([2H])([2H])C([2H])([2H])CC4)=O)=O)=O)=O)[C@@]2([H])S1)=O

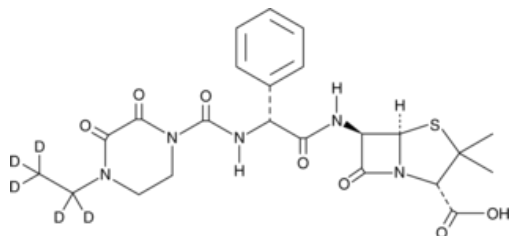
Formula $C_{23}H_{22}D_5N_5O_7S$ M.Wt 522.6

Solubility DMSO: Slightly soluble, Ethanol: Slightly soluble, Methanol: Slightly soluble
 Storage -20°C, protect from light, stored under nitrogen

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

Piperacillin-d5 is intended for use as an internal standard for the quantification of piperacillin by GC- or LC-MS. Piperacillin is a broad-spectrum β -lactam antibiotic of the penicillin class. It is active against Gram-negative and Gram-positive bacteria, including Enterococcus species, E. coli, and P. mirabilis (MIC₅₀s = 0.5-2 &#181g/ml) as well as gentamicin-susceptible and -resistant strains of P. aeruginosa (MIC₅₀s = 8 and 125 &#181g/ml, respectively). In a mouse model of systemic infection, piperacillin is active against P. aeruginosa 46220 when used alone or in combination with tazobactam. In the same model, it is less active against P. aeruginosa 46220 DR-2, which contains constitutively active β -lactamase, when used alone than when used in combination with tazobactam (ED₅₀s = >20 and 4.39 mg/animal, respectively). Formulations containing piperacillin in combination with

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tazobactam have been used in the treatment of moderate-to-severe bacterial infections.

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