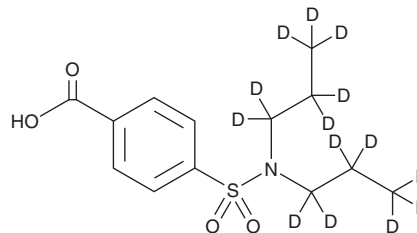


PRODUCT INFORMATION



Probenecid-d₁₄ Item No. 26787

CAS Registry No.: 1189657-87-1
Formal Name: 4-[[di(propyl-1,1,2,2,3,3,3-d₇)amino]sulfonyl]-benzoic acid
MF: C₁₃H₅D₁₄NO₄S
FW: 299.4
Chemical Purity: ≥98% (Probenecid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₄); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Probenecid-d₁₄ is intended for use as an internal standard for the quantification of probenecid (Item No. 14981) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Probenecid-d₁₄ is supplied as a solid. A stock solution may be made by dissolving the probenecid-d₁₄ in the solvent of choice, which should be purged with an inert gas. Probenecid-d₁₄ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of probenecid-d₁₄ in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

Probenecid is a benzoic acid derivative that inhibits organic anion transporters (OATs) but activates the transient receptor potential (TRP) channel TRPV2. It inhibits OAT1, OAT3, and OAT6 with K_i values of 6.3, 9.0, and 8.4 μM, respectively, as well as OAT2 with an IC₅₀ value of 0.67 μM.¹⁻³ It is a poor inhibitor of the organic cation transporters OCT1 and OCT2 (IC₅₀ = 1.6 and 1.7 mM, respectively).⁴ It also acts as an agonist of TRPV2 (EC₅₀ = 31.9 μM), eliciting nociceptive behavior under inflammatory conditions in mice. Formulations containing probenecid have been used in the treatment of gouty arthritis.⁵

References

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2. Takeda, M., Narikawa, S., Hosoyamada, M., *et al. Eur. J. Pharmacol.* **419(2-3)**, 113-120 (2001).
3. Khamdang, S., Takeda, M., Shimoda, M., *et al. J. Pharmacol. Sci.* **94(2)**, 197-202 (2004).
4. Arndt, P., Volk, C., Gorboulev, V., *et al. Am. J. Physiol. Renal Physiol.* **281(3)**, F454-F468 (2001).
5. Robbins, N., Koch, S.E., Tranter, M., *et al. Cardiovasc. Toxicol.* **12(1)**, 1-9 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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