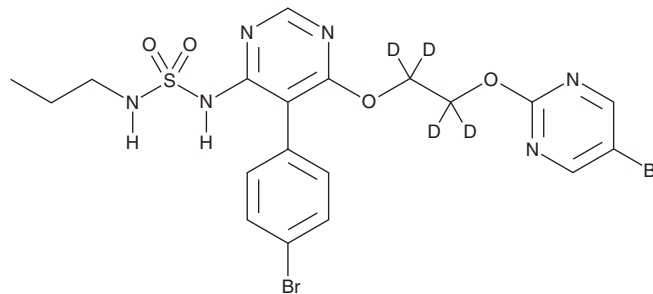


PRODUCT INFORMATION



Macitentan-d₄ Item No. 28522

CAS Registry No.: 1258428-05-5
Formal Name: N-[5-(4-bromophenyl)-6-[2-[(5-bromo-2-pyrimidinyl)oxy]ethoxy-1,1,2,2-d₄]-4-pyrimidinyl]-N'-propyl-sulfamide
Synonym: ACT-064992-d₄
MF: C₁₉H₁₆Br₂D₄N₆O₄S
FW: 592.3
Chemical Purity: ≥95% (Macitentan)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤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

Macitentan-d₄ is intended for use as an internal standard for the quantification of macitentan (Item No. 23304) 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).

Macitentan-d₄ is supplied as a solid. A stock solution may be made by dissolving the macitentan-d₄ in the solvent of choice, which should be purged with an inert gas. Macitentan-d₄ is slightly soluble in methanol (warmed) and DMSO.

Description

Macitentan is a dual antagonist of the endothelin (ET) receptors type A and B (IC₅₀s = 0.5 and 391 nM in a radioligand binding assay using recombinant ET_A and ET_B, respectively).¹ Macitentan inhibits intracellular Ca²⁺ increases induced by the endothelin isoform ET-1 in human pulmonary arterial smooth muscle cells (HPASMCs; IC₅₀ = 0.9 nM), contractions of isolated rat aortic rings (pA₂ = 7.6 for ET_A), and sarafotoxin S6c-induced contractions of isolated rat tracheal rings (pA₂ = 5.9 for ET_B). Macitentan increases plasma ET-1 concentrations in normotensive rats and decreases mean arterial blood pressure in DOCA-salt hypertensive rats (ED₅₀ = 1 mg/kg). Oral administration (30 mg/kg per day) prevents development of pulmonary hypertension and right ventricle hypertrophy in a rat model of hypertension induced by monocrotaline (Item No. 16666). It also decreases the number of vascular and tubule-interstitial lesions and amount of glomerular damage in a rat model of diabetes induced by streptozotocin (Item No. 13104). Formulations containing macitentan have been used for the treatment of pulmonary arterial hypertension.²

References

1. Iglarz, M., Binkert, C., Morrison, K., *et al.* Pharmacology of macitentan, an orally active tissue-targeting dual endothelin receptor antagonist. *J. Pharmacol. Exp. Ther.* **327**(3), 736-745 (2008).
2. Lefaucheur, C., Loupy, A., and Zeevi, A. Complement-binding anti-HLA antibodies and kidney transplantation. *N. Engl. J. Med.* **370**(1), 85-86 (2014).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/05/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM