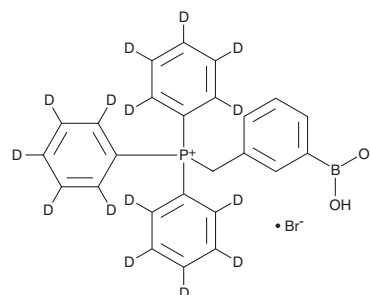


PRODUCT INFORMATION



MitoB-d₁₅ Item No. 17470

Formal Name: [(3-boronophenyl)methyl]triphenyl-d₁₅-phosphonium, monobromide
MF: C₂₅H₈D₁₅BO₂P • Br
FW: 492.2
Chemical Purity: ≥95% (MitoB)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₅); ≤1% d₀
UV/Vis.: λ_{max}: 267 nm
Supplied as: A crystalline 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

MitoB-d₁₅ contains 15 deuterium atoms located on the triphenyl group. It is intended for use as an internal standard for the quantification of MitoB (Item No. 17116) 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).

MitoB-d₁₅ is supplied as a crystalline solid. A stock solution may be made by dissolving the MitoB-d₁₅ in the solvent of choice. MitoB-d₁₅ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MitoB-d₁₅ in these solvents is approximately 0.5, 10, and 5 mg/ml, respectively.

Description

MitoB is a ratiometric mass spectrometry probe that can be used for assessing changes in H₂O₂ within mitochondria *in vivo*. MitoB contains a triphenylphosphonium cation component that drives its accumulation in mitochondria where its arylboronic moiety selectively reacts with H₂O₂ to produce a phenol product, MitoP (Item No. 17117).^{1,2} Quantifying the MitoP/MitoB ratio by LC-MS/MS reflects the mitochondrial matrix H₂O₂ concentration.

References

- Cochemé, H.M., Logan, A., Prime, T.A., *et al.* Using the mitochondria-targeted ratiometric mass spectrometry probe MitoB to measure H₂O₂ in living *Drosophila*. *Nat. Protoc.* **7**(5), 946-958 (2012).
- Cochemé, H.M., Quin, C., McQuaker, S.J., *et al.* Measurement of H₂O₂ within living *Drosophila* during aging using a ratiometric mass spectrometry probe targeted to the mitochondrial matrix. *Cell Metab.* **13**(3), 340-350 (2011).

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, 02/14/2024

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