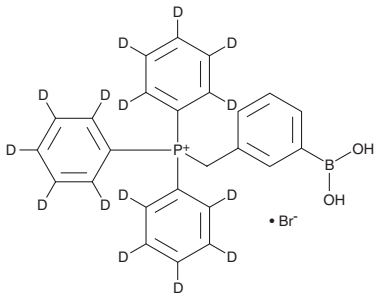
PRODUCT INFORMATION

MitoB-d_{15}

Item No. 17470

Formal Name:	[(3-boronophenyl)methyl]triphenyl-d_{15}-phosphonium, monobromide
MF:	$C_{25}H_8D_{15}BO_2P \bullet Br$
FW:	492.2
Chemical Purity:	≥95% (MitoB)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_{15}); ≤1% d_0
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-d_{15} 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-d_{15} is supplied as a crystalline solid. A stock solution may be made by dissolving the MitoB-d_{15} in the solvent of choice. MitoB-d_{15} is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MitoB-d_{15} 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 H_2O_2 within mitochondria *in vivo*. MitoB contains a triphenylphosphonium cation component that drives its accumulation in mitochondria where its arylboronic moiety selectively reacts with H_2O_2 to produce a phenol product, MitoP (Item No. 17117).[1,2] Quantifying the MitoP/MitoB ratio by LC-MS/MS reflects the mitochondrial matrix H_2O_2 concentration.

References

1. Cochemé, H.M., Logan, A., Prime, T.A., *et al*. Using the mitochondria-targeted ratiometric mass spectrometry probe MitoB to measure H_2O_2 in living *Drosophila*. *Nat. Protoc.* **7(5)**, 946-958 (2012).
2. Cochemé, H.M., Quin, C., McQuaker, S.J., *et al*. Measurement of H_2O_2 within living *Drosophila* during aging using a ratiometric mass spectrometry probe targeted to the mitochondrial matrix. *Cell Metab.* **13(3)**, 340-350 (2011).

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