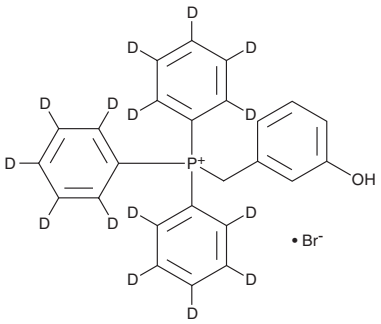
PRODUCT INFORMATION

MitoP-d_{15}

Item No. 19296



Formal Name:	[(3-hydroxyphenyl)methyl]triphenyl-d_5-phosphonium, monobromide
Synonym:	MitoPhenol-d_{15}
MF:	$C_{25}H_7D_{15}OP \bullet Br$
FW:	464.4
Chemical Purity:	≥95% (MitoP)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_{15}); ≤1% d_0
UV/Vis.:	λ_{max}: 295 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

MitoP-d_{15} contains five deuterium atoms located on each phenyl group. It is intended for use as an internal standard for the quantification of MitoP (Item No. 17117) 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).

MitoP is supplied as a crystalline solid. A stock solution may be made by dissolving the MitoP in the solvent of choice. MitoP is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of MitoP in ethanol is approximately 12 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Description

MitoP is a phenol product produced by the reaction of H_2O_2 with the ratiometric mass spectrometry probe MitoB (Item No. 17116). MitoB contains a triphenylphosphonium cation component that drives its accumulation in mitochondria where its arylboronic moiety selectively reacts with H_2O_2 to produce MitoP.[1,2] Quantifying the MitoP/MitoB ratio by LC-MS/MS reflects the mitochondrial matrix H_2O_2 concentration.

References

1. 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).
2. 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).

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