MitoTEMPOL
Item No. 18796

CAS Registry No.: 1101113-39-6
Formal Name: 2,2,6,6-tetramethyl-4-[[S-(triphenylphosphonio)pentyloxy]-1-piperidinyloxy, monobromide
MF: C₃₂H₄₂NO₂P • Br
FW: 583.6
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

MitoTEMPOL is supplied as a solid. A stock solution may be made by dissolving the mitoTEMPOL in water. The solubility of mitoTEMPOL in water is approximately 100 mM. We do not recommend storing the aqueous solution for more than one day.

Description

MitoTEMPOL is a mitochondria-targeting superoxide dismutase mimetic that reduces mitochondrial O₂⁻ to H₂O₂.¹ Like the related compound MitotEMPO (Item No. 16621), MitoTEMPOL combines an antioxidant moiety (here, TEMPO, also known as 4-hydroxy-TEMPO) with the lipophilic cation triphenylphosphonium, which allows it to pass through lipid bilayers and accumulate in mitochondria.¹ MitoTEMPOL has been used to elucidate the role of mitochondria-derived superoxide in mitochondrial, cellular, and whole animal signaling.²⁻⁶

References