

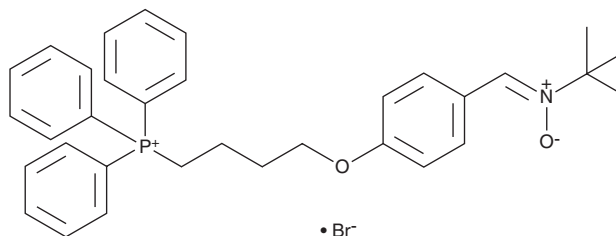
PRODUCT INFORMATION



MitoPBN

Item No. 18809

CAS Registry No.: 652968-37-1
Formal Name: [4-[4-[[[1,1-dimethylethyl]oxidoimino]methyl]phenoxy]butyl]triphenyl-phosphonium, monobromide
MF: C₃₃H₃₇NO₂P • Br
FW: 590.5
Purity: ≥95%
UV/Vis.: λ_{max}: 303, 406, 659 nm
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

MitoPBN is supplied as a solid. A stock solution may be made by dissolving the MitoPBN in the solvent of choice, which should be purged with an inert gas. MitoPBN is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MitoPBN in these solvents is approximately 0.33, 1, and 25 mg/ml, respectively.

MitoPBN is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MitoPBN should first be dissolved in DMF and then diluted with the aqueous buffer of choice. MitoPBN has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

MitoPBN is a mitochondria-targeted antioxidant.¹ It accumulates in the mitochondria following the generation of a mitochondrial membrane potential by succinate, an effect that is blocked by addition of the mitochondrial membrane potential uncoupler FCCP (Item No. 15218). MitoPBN inhibits superoxide activation of mitochondrial uncoupling protein 1 (UCP1), UCP2, and UCP3 when used at a concentration of 250 nM *in vitro* but does not react with superoxide. It traps hydroxyl (IC₅₀ = ~77 μM) and carbon-centered radicals and inhibits the initiation of lipid peroxidation in isolated bovine heart mitochondria.

Reference

1. Murphy, M.P., Echtay, K.S., Blaikie, F.H., *et al.* Superoxide activates uncoupling proteins by generating carbon-centered radicals and initiating lipid peroxidation: Studies using a mitochondria-targeted spin trap derived from α-phenyl-N-tert-butyl nitronium. *J. Biol. Chem.* **278(49)**, 48534-48545 (2003).

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.

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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