

Product Data Sheet

Product Name: MitoTam bromide, hydrobromide

Cat. No.: GC36619

Chemical Properties

Cas. No. 1634624-73-9

SMILES CN(CCOC1=CC=C(/C(C2=CC=CC=C2)=C(C3=CC=CC=C3)/CCCCCCCCC[P+](C4=CC=CC=C4)(C5=CC=CC=C5)C6=CC=CC=C6)C=C1)C.[H]Br.[Br-]

Formula C₅₂H₆₀Br₂NOP M.Wt 905.82

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Background

MitoTam bromide, hydrobromide is a tamoxifen derivative[1], an electron transport chain (ETC) inhibitor, spreduces mitochondrial membrane potential in senescent cells and affects mitochondrial morphology[2]. MitoTam bromide, hydrobromide is an effective anticancer agent, suppresses respiratory complexes (CI-respiration) and disrupts respiratory supercomplexes (SCs) formation in breast cancer cells[1][2]. MitoTam bromide, hydrobromide causes apoptosis[2].

MitoTam (0.5 μM-56 μM; 24 hours) kills breast cancer cell Lines and nonmalignant cells with an IC₅₀ range from 0.65 μM to 55.9 μM[1]. MitoTam (2.5 μM; 2-24 hours) results in stronger activation of the apoptotic pathway in MCF7 Her2high cells compared with mock MCF7 cells[1]. MitoTam (0.05 μM-1 μM; 3 days) causes a concentration-dependent induction of apoptosis in breast cancer cells, while there was no effect for non-malignant breast epithelial cells[2] Cell Viability Assay[1] Cell Line: Breast Cancer Cell Lines: BT474, MCF7, MCF7 Her2high, MCF7 Her2low, MDA-MB-231, MDA-MB-436, MDA-MB-453, SK-BR-3, T47D; NeuTL cells; Nonmalignant Cells: A014578, H9c2 cells

Caution: Product has not been fully validated for medical applications. For research use only.

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MitoTam (intraperitoneal injection; 2 µg/g; once a week; 4 weeks) decreases β-gal staining of lungs from MitoTam-treated mice, accompanying by a inhibition in the expression of senescence markers p16Ink4a, p21waf1 and PAI comparing control mice sup>[2].MitoTam (intraperitoneal injection; 0.54 µmol/mouse; twice a week; 2 weeks) inhibits growth of syngeneic tumors by 80%[1].MitoTam (intraperitoneal injection; 0.25 µmol/mouse; twice a week; 2 weeks) slows down the growth of MCF7 mock tumors and stops tumor progression after two doses; suppresses Her2high carcinomas decreased threefold from the original size with complete disappearance[1]. Animal Model: 18-month-old or 2-month-old FVB/N mice[2]

[1]. Rohlenova K, et al. Selective Disruption of Respiratory Supercomplexes as a New Strategy to Suppress Her2highBreast Cancer. Antioxid Redox Signal. 2017 Jan 10;26(2):84-103. [2]. Hubackova S, et al. Selective elimination of senescent cells by mitochondrial targeting is regulated by ANT2. Cell Death Differ. 2019 Jan;26(2):276-290.

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