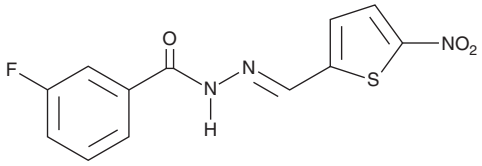
PRODUCT INFORMATION

MitoBloCK-10

Item No. 42054

CAS Registry No.:	394694-98-5
Formal Name:	3-fluoro-benzoic acid 2-[(5-nitro-2-thienyl)methylene]hydrazide
Synonym:	MB-10
MF:	$C_{12}H_8FN_3O_3S$
FW:	293.3
Purity:	≥98%
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

MitoBloCK-10 is supplied as a solid. A stock solution may be made by dissolving the MitoBloCK-10 in the solvent of choice, which should be purged with an inert gas. MitoBloCK-10 is soluble (≥10 mg/ml) in the organic solvent DMSO.

Description

MitoBloCK-10 is an inhibitor of mitochondrial protein import.[1] It inhibits the import of cytochrome *c1* into the mitochondrial intermembrane space in yeast cells when used at a concentration of 100 µM. MitoBloCK-10 (25 µM) inhibits migration and invasion of, and induces apoptosis and cell cycle arrest at the G_1 phase in, primary human bladder cancer cells.[2] It induces mitochondrial depolarization, decreases ATP levels, and increases reactive oxygen species (ROS) in primary human bladder cancer cells. MitoBloCK-10 (20 mg/kg every other day) decreases tumor volume in a patient-derived xenograft (PDX) mouse model of bladder cancer. Intravitreal administration of MitoBloCK-10 (0.25 nM/eye) reduces superoxide dismutase (SOD) activity and increases TBARS levels and acellular capillary numbers in mouse retina.[3] It induces dorsal curvature and cardiac apoptosis in zebrafish embryos when used at a concentration of 10 µM.[1]

References

1. Miyata, N., Tang, Z., Conti, M.A., *et al.* Adaptation of a genetic screen reveals an inhibitor for mitochondrial protein import component Tim44. *J. Biol. Chem.* **292(13)**, 5429-5442 (2017).
2. Zhang, L., Shi, X., Zhang, L., *et al.* A first-in-class TIMM44 blocker inhibits bladder cancer cell growth. *Cell Death Dis.* **15(3)**, 204 (2024).
3. Ma, Z.-R., Li, h.-P., Cai, S.-Z., *et al.* The mitochondrial protein TIMM44 is required for angiogenesis in vitro and in vivo. *Cell Death Dis.* **14(5)**, 307 (2023).

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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