

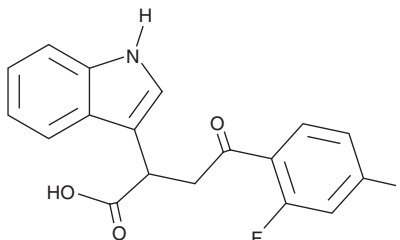
PRODUCT INFORMATION



Mitochondric Acid 5

Item No. 35702

CAS Registry No.: 1354707-41-7
Formal Name: α -[2-(2,4-difluorophenyl)-2-oxoethyl]-1H-indole-3-acetic acid
Synonym: MA-5
MF: $C_{18}H_{13}F_2NO_3$
FW: 329.3
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 220 nm
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



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

Laboratory Procedures

Mitochondric acid 5 is supplied as a solid. A stock solution may be made by dissolving the mitochondric acid 5 in the solvent of choice, which should be purged with an inert gas. Mitochondric acid 5 is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml. Mitochondric acid 5 is also slightly soluble in dimethyl formamide.

Description

Mitochondric acid 5 is an inhibitor of mitochondrial dysfunction.¹ It increases intracellular ATP levels in Hep3B cells when used at a concentration of 3 μM . Mitochondric acid 5 (5 μM) rescues LPS-induced apoptosis and decreases in the mitochondrial membrane potential in BV-2 microglial cells.² It protects against decreases in cell viability induced by L-buthionine-(S,R)-sulfoximine (BSO; Item No. 14484) in fibroblasts isolated from patients with various mitochondrial diseases, including Leigh syndrome and Leber's hereditary optic neuropathy ($EC_{50}s = 2.3$ -5.1 μM), in an electron transport chain-independent manner.¹ Mitochondric acid 5 (50 mg/kg) reduces plasma levels of creatinine and decreases acute renal tubular necrosis in a mouse model of bilateral retroperitoneal renal ischemia-reperfusion injury.³

References

1. Suzuki, T., Yamaguchi, H., Kikusato, M., *et al.* Mitochondric acid 5 (MA-5), a derivative of the plant hormone indole-3-acetic acid, improves survival of fibroblasts from patients with mitochondrial diseases. *Tohoku J. Exp. Med.* **236**(3), 225-232 (2015).
2. Tan, J., Chen, S.-X., Lei, Q.-Y., *et al.* Mitochondric acid 5 regulates mitofusin 2 to protect microglia. *Neural Regen. Res.* **16**(9), 1813-1820 (2021).
3. Suzuki, T., Yamaguchi, H., Kikusato, M., *et al.* Mitochondric acid 5 binds mitochondria and ameliorates renal tubular and cardiac myocyte damage. *J. Am. Soc. Nephrol.* **27**(7), 1925-1932 (2016).

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