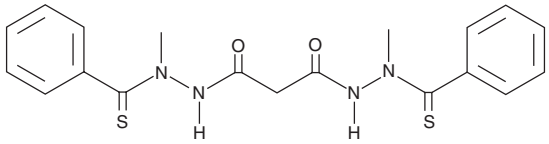
PRODUCT INFORMATION

Elesclomol

Item No. 10011192

CAS Registry No.: 488832-69-5
Formal Name: 1,3-*bis*[2-methyl-2-(phenylthioxomethyl)hydrazide]-propanedioic acid
Synonyms: NSC 174939, STA 4783
MF: $C_{19}H_{20}N_4O_2S_2$
FW: 400.5
Purity: ≥98%
UV/Vis.: λ_{max}: 243, 284 nm
Supplied as: A crystalline 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

Elesclomol is supplied as a crystalline solid. A stock solution may be made by dissolving the elesclomol in the solvent of choice, which should be purged with an inert gas. Elesclomol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of elesclomol in these solvents is approximately 0.1, 25, and 30 mg/ml, respectively.

Description

Elesclomol is an inducer of apoptosis and a copper ionophore.[1] It induces the production of reactive oxygen species (ROS) and increases oxidative stress response gene expression in Ramos (RA 1) B cell lymphoma cells when used at a concentration of 500 nM. Elesclomol (100 nM) disrupts the mitochondrial membrane potential and induces apoptosis in Ramos (RA 1) cells. It induces ferroptosis by selectively transporting copper into the inner mitochondrial membrane in MDA-MB-435 breast cancer cells.[2] Elesclomol preloaded with copper (3.6 mg/kg) increases brain mitochondrial copper and mitochondrial complex IV, also known as cytochrome *c* oxidase, levels, as well as increases survival time, body weight, and brain weight and prevents changes in neuronal morphology in a mottled-brindled mouse model of Menkes disease, a fatal, X-linked condition characterized by copper-transporting ATPase (*ATP7A*) gene mutation, which produces altered catecholamine and copper levels, hypopigmentation, and severe neurodegeneration.[3]

References

1. Kirshner, J.R., He, S., Balasubramanyam, V., *et al.* Elesclomol induces cancer cell apoptosis through oxidative stress. *Mol Cancer Ther* **7(8)**, 2319-2327 (2008).
2. Nagai, M., Vo, N.H., Shin Ogawa, L., *et al.* The oncology drug elesclomol selectively transports copper to the mitochondria to induce oxidative stress in cancer cells. *Free Radic. Biol. Med.* **52(10)**, 2142-2150 (2012).
3. Guthrie, L.M., Soma, S., Yuan, S., *et al.* Elesclomol alleviates Menkes pathology and mortality by escorting Cu to cuproenzymes in mice. *Science* **368(6491)**, 620-625 (2020).

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

PRODUCT INFORMATION

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