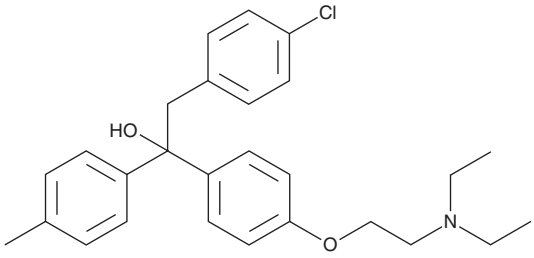
PRODUCT INFORMATION

Triparanol

Item No. 20918

CAS Registry No.:	78-41-1
Formal Name:	4-chloro-α-[4-[2-(diethylamino)ethoxy] phenyl]-α-(4-methylphenyl)-benzeneethanol
Synonyms:	MER-29, NSC 65345
MF:	$C_{27}H_{32}ClNO_2$
FW:	438.0
Purity:	≥98%
UV/Vis.:	λ_{max}: 224, 274 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

Triparanol is supplied as a crystalline solid. A stock solution may be made by dissolving the triparanol in the solvent of choice. Triparanol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of triparanol in these solvents is approximately 0.125, 20, and 30 mg/ml, respectively.

Description

Triparanol is a 24-dehydro cholesterol reductase (DHCR24) inhibitor (K_i = 0.523 µM), which is an enzyme involved in the biosynthesis of cholesterol.[1,2] It has antitumor properties, such as decreasing proliferation and inducing apoptosis in many cancer cell lines and slowing tumor growth in a mouse xenograft model.[3] It can also decrease Hedgehog pathway signaling in cancer cells. Formulations containing triparanol were discontinued in the 1960s due to serious adverse side effects, including rapid cataract development.[4,5]

References

1. Avigan, J., Steinberg, D., Vroman, H.E., *et al.* Studies of cholesterol biosynthesis. I. The identification of desmosterol in serum and tissues of animals and man treated with MER-29. *J. Biol. Chem.* **235(11)**, 3123-3126 (1960).
2. Bae, S.-H., and Paik, Y.-K. Cholesterol biosynthesis from lanosterol: Development of a novel assay method and characterization of rat liver microsomal lanosterol Δ^{24}-reductase. *Biochem. J.* **326**, 609-616 (1997).
3. Bi, X., Han, X., Zhang, F., *et al.* Triparanol suppresses human tumor growth *in vitro* and *in vivo*. *Biochem. Biophys. Res. Commun.* **425(3)**, 613-618 (2012).
4. Endo, A. A historical perspective on the discovery of statins. *Proc. Jpn. Acad. Ser. B. Phys. Biol. Sci.* **86(5)**, 484-493 (2010).
5. Laughlin, R.C., and Carey, T.F. Cataracts in patients treated with triparanol. *JAMA* **181(4)**, 339-340 (1962).

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