Small Molecules

Verteporfin

YAP1 inhibitor

Catalog #100-0261	1 mg
100-0262	5 mg

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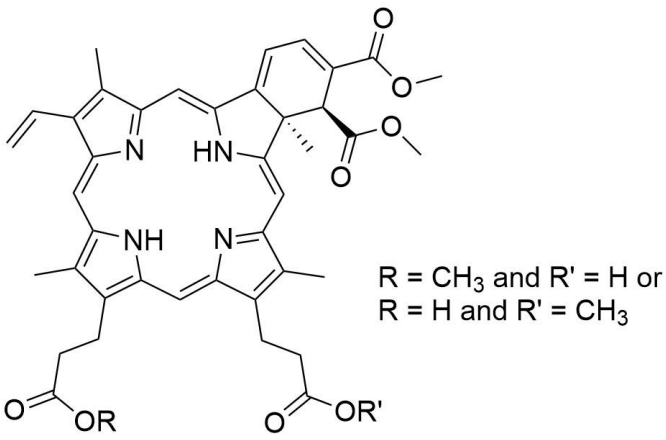
Product Description

Verteporfin is a benzoporphyrin derivative that inhibits autophagosome formation by directly targeting and modifying p62, a scaffold protein that targets polyubiquitinated proteins for degradation (Donohue et al.). Verteporfin also disrupts YAP-TEAD interactions by enhancing trypsin cleavage of YAP (EC_{50} = 100 nM; Brodowska et al.; Liu-Chittenden et al.).

Molecular Name:	Verteporfin
Alternative Names:	BPD-MA; CL 318,952
CAS Number:	129497-78-5
Chemical Formula:	$C_{41}H_{42}N_4O_8$
Molecular Weight:	718.8 g/mol
Purity:	≥ 95%
Chemical Name:	(4R,4aS)-rel-18-ethenyl-4,4a-dihydro-3,4-3,4-bis(methoxycarbonyl)-4a,8,14,19-tetramethyl-24H,26H-benzo[b]porphine-9,13-dipropanoic acid, monomethyl ester

Structure:



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	• DMSO ≤ 65 mM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 139 µL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

CANCER RESEARCH

· Inhibits the growth, proliferation, and viability of human retinoblastoma cells (Brodowska et al.).

· Inhibits self-renewal in cancer stem cells with high YAP1 and ALDH1 levels (Song et al.).

References

Donohue E et al. (2014) Induction of covalently crosslinked p62 oligomers with reduced binding to polyubiquitinated proteins by the autophagy inhibitor verteporfin. PLoS One 9(12): e114964.

Brodowska K et al. (2014) The clinically used photosensitizer Verteporfin (VP) inhibits YAP-TEAD and human retinoblastoma cell growth in vitro without light activation. Exp Eye Res 124: 67–73.

Liu-Chittenden Y et al. (2012) Genetic and pharmacological disruption of the TEAD-YAP complex suppresses the oncogenic activity of YAP. Genes Dev 26: 1300–5.

Song S et al. (2014) Hippo coactivator YAP1 upregulates SOX9 and endows esophageal cancer cells with stem-like properties. Cancer Res 74(15): 4170–82.

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