Revision 1

Store at -20C

#64260

# Verteporfin

5 mg

Cell Signaling TECHNOLOGY®

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## Background

Verteporfin is a benzoporphyrin derivative that is photoactivated by nonthermal red light in the presence of oxygen. It is used clinically as a photosensitizer in photodynamic therapy to treat selected vascular-related diseases. When photoactivated in vasculature, verteporfin generates reactive oxygen species that induce localized damage to endothelial cells, resulting in targeted vessel blockage. Established clinical uses of verteporfin include the treatment of age-related macular degeneration, subfoveal choroidal neovascularization, and pathological myopia (1,2); its anti-angiogenic effects have also led to its consideration as an anti-tumor agent (3). However, the cellular effects of verteporfin exposure extend beyond its photosensitizing activity. It has also been shown to block the interaction between the transcriptional co-activator YAP and TEAD family transcription factors, notably in the absence of photoactivation. This was shown to result in transcriptional repression of YAP target genes that regulate cell proliferation and cell death (4,5), suggesting an additional mechanism by which verteporfin could be utilized as an anti-tumor agent.

## Molecular Formula

$C_{41}H_{42}N_4O_8$

## Molecular Weight

718.8 g/mol

## Purity

>98%

## CAS

129497-78-5

## Solubility

Soluble in DMSO at 14 mg/mL.

## Storage

Store lyophilized at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

## Directions for Use

Verteporfin is supplied as a lyophilized powder. For a 10 mM stock, reconstitute 5 mg of powder in 695 µL of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

## Background References

1. Schmidt-Erfurth, U. and Hasan, T. *Surv Ophthalmol* 45, 195-214.
2. Fenton, C. and Perry, C.M. (2006) *Drugs Aging* 23, 421-45.
3. Li, X. et al. (2020) *Nat Rev Clin Oncol* 17, 657-674.
4. Wang, C. et al. (2016) *Am J Cancer Res* 6, 27-37.
5. Ma, Y.W. et al. (2016) *Am J Cancer Res* 6, 2816-2830.

## Trademarks and Patents



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