Chlorin e6
Item No. 21684

CAS Registry No.: 19660-77-6
Formal Name: (7S,8S)-3-carboxy-5-(carboxymethyl)–
13-ethenyl-18-ethyl-7,8-dihydro-
2,8,12,17-tetramethyl-21H,23H-
porphine-7-propanoic acid
Synonym: Ce6
MF: C_{34}H_{36}N_{4}O_{6}
FW: 596.7
Purity: ≥98%
UV/Vis.: \(\lambda_{\text{max}}\): 286, 400, 501, 608, 663 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Chlorin e6 (Ce6) is supplied as a crystalline solid. A stock solution may be made by dissolving the Ce6 in the solvent of choice. Ce6 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of Ce6 in these solvents is approximately 30 mg/ml. It is also slightly soluble in ethanol.

Ce6 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Ce6 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Ce6 has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ce6 is a second-generation photosensitizer with antitumor activity when used in conjunction with irradiation. In a mouse model of implanted fibrosarcoma, Ce6 (2.5-10 mg/kg, i.v. with irradiation at 50-200 J/cm\(^2\)) led to complete tumor loss following varying levels of irradiation.\(^1\) A formulation including Ce6 was tested in a Phase I clinical study for patients with bronchogenic early superficial squamous cell carcinoma with positive results (40 mg/m\(^2\), i.v. with laser irradiation at 100 J/cm\(^2\)).\(^2\) The same dosing paradigm in a Phase II clinical trial for early stage lung cancer patients led to a complete response in 82.9% of patients.\(^3\) Ce6 has been examined as a nanotechnology drug delivery tool.\(^4\)

References